Fragmenting and Reassembling the World: Of Flying Squirrels, Augmented Persons, and Other Monsters

MICHAEL H. SHAPIRO*

CONTENTS

I. INTRODUCTION 332
II. TECHNOLOGY AND DERANGEMENT: DIVIDING AND CONQUERING THE WORLD 333
A. *Fragmentation* 334
B. *Prejudicial Knowledge* 337
C. *Classification and Human Thought; "Choice" of Conceptual Systems* 338
1. *Thinking and Monsters* 338
2. *Multiple Aspects and Concurrent Characterizations* . 341
3. *Failure of Category Systems* 341
4. *Choice of Classification or Conceptual Systems* 344
D. *Reassembly* 346
III. THE DESCENT FROM PERSON TO OBJECT 348
A. *Choice and the Contingency of Duties: The Problem of Too Many Options* 348
1. *The Connection Between Choice and Contingency* ... 348
2. *Too Many Options?* 349
B. *Commodification and Objectification* 350
1. *In General* 350
2. *Objects and Commodities* 351
3. *Transformations: The Components of Objectification and Commodification* 351
4. *Learning and Cognition* 352
C. *Obligations to Transform or Perfect: More on Choice and Objectification* 355
1. *The Normative Force of Potential* 355
2. *Choice, Objectification and Contingency: The "Paradox" of Perfectionism* 355
3. *Moral Intrusiveness* 357
IV. FRAGMENT CONTROL—A REVIEW: NEW ENTITIES, NEW PERSPECTIVES, AND NEW CONFLICTS 357
V. A NOTE ON NORMATIVE ANALYSIS 360
A. *Challenges to Classification Systems* 360
B. *(Re)classification, Perception, and Learning* 361
C. *The Perceivers' Veto* 361

* Dorothy W. Nelson Professor of Law, University of Southern California. B.A. 1959; M.A. 1962, U.C.L.A.; J.D. 1964, Univ. of Chicago. My thanks to Professors Scott Altman, Thomas Morawetz, Elyn Saks, Hugh Scogin, Jr., and Roy Spece, Jr. for useful comments and references.

D. *Basic Values and Stability of Traits* 361
VI. THE RESTORATION OF ORDER 362
A. *Assessing the Degree of Disorder* 362
B. *Some Problems to Work With* 363
1. *Surrogacy* 363
2. *Fetal Transplantation* 368
3. *Performance Enhancement* 370
VII. CONCLUSION AND SUMMARY 373

I. INTRODUCTION

We use technologies to separate and rejoin the parts of things. The things may be objects, processes, or their interrelationships, and the social structures built on them may also be transformed by the rearrangements.[1] Our reasons for reconfiguring things are immensely various—to restore what is broken or disordered, to communicate, to do work generally, to play. We have, for the most part, become accustomed to such rearrangements and pay them little mind, unless our efforts threaten harm. In medicine, in particular, we are relatively comfortable with the idea of transplanting corneas or transferring nature's juices from plants to human bloodstreams.

But some technological developments are not so easy to assimilate, particularly in the life sciences. There are fragmentations and fragmentations. Some current problems seem particularly unsettling to many, and it is worth probing to find out just why this is so—we may derive some normative insights that will, in turn, guide legal responses. Being unsettled, alarmed, or offended may not, standing alone, always call for action,[2] but such feelings are clues to follow in inspecting our value and legal systems and their application to the events at hand. Battles about frozen embryos,[3] performance enhancement through chemistry or genetics,[4] the meaning of "death,"[5] and surrogate motherhood[6] seem different from older orders of biomedical disputes; they are alarming in a way that use of antibiotics or bypass surgery is not. If they should not be alarming, that is something to conclude after reflection, not before.

---

1. I am not offering a rigorous definition of "technology." For brief remarks, see M. SHAPIRO & R. SPECE, CASES, MATERIALS AND PROBLEMS ON BIOETHICS AND LAW 24-25 (1981) [hereinafter BIOETHICS]. *See generally* Coolen, *Philosophical Anthropology and the Problem of Responsibility in Technology*, in TECHNOLOGY AND RESPONSIBILITY 43-44 (P. Durbin ed. 1987) ("Following the Dutch philosopher Piet de Bruin, I define technology as the control of nature by way of combining its forces according to a design conceived of by human understanding. The resulting combination is a new work of nature that can be used as a means to realize a specific end.").

2. *Cf.* J. FEINBERG, OFFENSE TO OTHERS (1985).

3. Davis v. Davis, 15 Fam. L. Rep. (B.N.A.) 2097 (Cir. Ct., Tenn. 1989) (wife awarded temporary custody of cryopreserved embryos for the purpose of implantation in herself); York v. Jones, 717 F. Supp. 421 (E.D. Va. 1989) (genetic parents of cryopreserved embryo had contractual right to remove it from storage facility for purposes of attempting implantation elsewhere).

4. *See infra* notes 189-202 and accompanying text.

5. For a brief discussion of brain death and of proposals to expand the meaning of "death," by using "neocortical" or "higher brain" formulations to cover those in a persistent vegetative state, see generally A. MEISEL, THE RIGHT TO DIE 133-35 (1989). *See also* PRESIDENT'S COMMISSION FOR THE STUDY OF ETHICAL PROBLEMS IN MEDICINE AND BIOMEDICAL AND BEHAVIORAL RESEARCH, DEFINING DEATH 38-41 (1981) ("higher brain" formulations of death).

6. *See generally Colloquy:* In re Baby M., 76 GEO. L.J. 1719 (1988).

I do not claim that some simple shared element accounts for all disturbing technologies, distinguishing them clearly from the technologies of acquiring resources, producing food, or processing information, or from "standard" medical practice. Perhaps the more disturbing technologies simply have more elements of unsettlement packed into them than do other technologies. But this sort of conceptual indeterminacy is no surprise to twentieth century scholars.

In what follows, I begin with an abstract account and then apply it to particular problems. The account is roughly as follows: 1) Biological technologies fragment certain natural processes, conditions, or relationships, and the social arrangements resting on them may, as a result, also be divided. 2) This "fission" and the resulting "particles" may not be clearly addressed by our existing normative classification systems—systems of thought central to description, explanation, and justification. These systems generally presuppose a known set of relatively stable elements underlying the classifications. 3) The fragments can be reassembled, thus compounding the classification traumas: more entities not covered by our categories, and more new choices. 4) The fragments and assemblages formed may call for moral and legal recognition or attention; at the very least, they offer new perspectives. 5) It may not be clear who is to control the fate of the fragments, reassemblages, and new relationships—or what powers the controllers will have. 6) The set of "fragmentation, classification-challenge, and reassembly" events creates risks of human objectification and commodification by transferring our ideas about objects to persons. We may learn to view persons less as persons and more as objects. 7) This may transform our supposedly mandatory duties of care and respect for persons into contingent ones associated with the success of products. Such risks may apply with particular force to the the classificational anomalies produced by technological division and restructuring (*e.g.*, augmented persons). 8) The very existence of choice thus may make us normatively worse off in certain respects by risking the erosion of noncontingent bonds. 9) Nevertheless, the risks of moving from division and reconstitution to objectification and contingent loyalties are in many cases exaggerated.

II. Technology and Derangement: Dividing and Conquering the World

I suggest the sequence of ideas just outlined as a map for describing and dealing with certain biological technologies that seem particularly disturbing. (The sequence is only partly chronological.) The ideas help explain the sense of novelty and the feeling that we are bereft of our customary thinking tools when we face, not just new ways of doing old things, but what looks like the doing of new things. In particular, these ideas enable us to trace the impact of technological changes on the conceptual systems that we use in judging the world and our conduct, and in devising and enforcing rules dealing with the technologies at issue. (I will not attempt a formal definition of "conceptual system." For present purposes, I am using "conceptual system," "classification," and "categorization" interchangeably here, though they are not truly synonymous.)

The conceptual impact of technology is simply an instance of the fact that acting and thinking restructure each other in interminable cycles. These cycles are nothing new: we have always revised ourselves in this way. The change arising from the contemporary life sciences is the intensification and possible radicalization of this process. We will be transforming ourselves (as we have already begun to do)[7] by direct technological intervention, by constructing institutions embracing new technologies, by dismantling institutions resting on defunct technologies, and by watching and listening to our responses.[8] (Our technologies and institutions are "reflexive" in this sense; things do get done with mirrors.)[9] While some may view conceptual impacts as mere epiphenomena of technological change, they are in fact facilitators and stumbling blocks for such change and are among its most potent effects.[10]

I add that I am not concerned simply with explaining why we are unsettled or disturbed by certain technologies. Such explanations are part of a larger enterprise connecting matters of perception, cognition, and categorization with normative and legal reasoning. The conceptual impacts and learning effects of technology are relevant in any effort to construct and maintain normative systems, whatever their content.[11] While some such consequences seem inevitable, however, it may be unclear in any given case whether fears of objectification at the hands of biological technologies are reasonable. To make matters still more complex, our very awareness of such risks may affect the outcome.

A. *Fragmentation*

There is a givenness and unity about the world that commands our attention, influences our lives, and moves us to judge conduct and conditions in light of their consistency with this fixity. It is of course a givenness that we soon see is malleable: the fixity is relative. Trees fall and rivers dry up. But malleability comes in different forms and affects different subjects. Certain technologies fragment the unity of human life processes and the social structures that are

---

7. *See infra* text accompanying notes 159-202.

8. See my remarks on "regulation as language" in Shapiro, *On Not Watering All the Flowers: Regulatory Theory and the Funding of Heart Transplantation*, 28 JURIMETRICS J. 21, 24-25 (1987) ("[L]earning theory and other theories of preference formation suggest the possibility of value reinforcement through regulation . . . . We need . . . to consider the view that how we pursue our preferences affects those very preferences."); *cf.* Seidman, Baby M *and The Problem of Unstable Preferences*, 76 GEO. L.J. 1829, 1834 (1988) ("[T]he *Baby M* litigation confronts us with the fact that there is a kind of Heisenberg uncertainty principle at work when values are measured. The competing preferences are themselves partially a product of the devices used to mediate between them.").

9. *Cf.* Wildavsky, *Choosing Preferences by Constructing Institutions: A Cultural Theory of Preference Formation*, 81 AM. POL. SCI. REV. 3, 5, 18 (1987) (organization of institutions powerfully affects preferences).

10. *Cf.* D. HULL, SCIENCE AS A PROCESS 508 (1988) ("The chief activity of scientists is the production of conceptual systems."). Hull was talking of conceptual systems embedded in scientific theory and practice, but science and its conceptual systems may revise and reorder the systems the wider community uses in describing and evaluating. *See generally* Mazlish, *The Fourth Discontinuity*, TECH. & CULTURE, Jan. 1967, at 3:

> In this version of the three historic ego-smashings [caused by Copernicus, Darwin, and Freud], man is placed on a continuous spectrum in relation to the universe, to the rest of the animal kingdom, and to himself. He is no longer discontinuous with the world around him. . . . Yet . . . a fourth and major discontinuity, or dichotomy, still exists in our time. It is the discontinuity between man and machine. . . .[M]y thesis is that this fourth discontinuity must now be eliminated.

11. *See infra* note 150 and accompanying text.

built upon them, assault their givenness, and break them down. Important classification schemes—important at least in a given culture—may rest on these perceived unities. If so, the rearrangement of nature becomes ominous, not just remarkable. Our investment in a mode of thinking and judging—our ideological capital—evaporates.[12]

A brief taxonomic point: "fragmentation" applies to widely different categories of existence—life processes and conditions, living beings, social relationships, and (in a more metaphoric sense) conceptual structures. The same necessarily applies to "reassembly" and to the reassembled "fragments." Fragmentation and reassembly are themselves fragmented concepts.

Consider the following examples.[13]

1. New reproductive techniques separate genetics from gestation—a now familiar point, though not yet well integrated into new thinking schemes. A fertilized ovum derived from one woman can be implanted into another. Children have already been born of such embryo transfer.[14] Perhaps fully artificial gestation will become possible.[15] It is commonplace to note the accompanying conceptual and relational fragmentations—the multiplicity of persons who can, with some justice, be called "mothers"—genetic mothers, gestational mothers, and custodial mothers.[16] (Parallel remarks apply to the term "father".)

2. New reproductive techniques also produce, if not new entities, entities in novel circumstances. A cryopreserved embryo is life in limbo, a something, but what?

3. Life-prolonging technologies have separated neurological and cardiovascular failure.[17] They never were identical, of course, but they were almost ex-

---

12. *Cf.* H. MARGOLIS, PATTERNS, THINKING, AND COGNITION 183 (1987) (determined effort required to overcome deeply entrenched habits of mind).

13. I am not trying to be exhaustive in characterizing present or prospective fragmentations.

14. S. ELIAS & G. ANNAS, REPRODUCTIVE GENETICS AND THE LAW 230-34 (1987) [hereinafter REPRODUCTIVE GENETICS].

15. For a general discussion, see Note, *Choice Rights and Abortion: The Begetting Choice Right and State Obstacles to Choice in Light of Artificial Womb Technology*, 51 S. CAL. L. REV. 877 (1978).

16. *E.g.*, Capron, *The New Reproductive Possibilities: Seeking a Moral Basis for Concerned Action in a Pluralistic Society*, 12 LAW MED. & HEALTH CARE 192, 195 (1984) ("issues that arise from the separation of genetic, gestational and social/legal parental roles"); Robertson, *Embryos, Families, and Procreative Liberty: The Legal Structure of the New Reproduction*, 59 S. CAL. L. REV. 942, 953 (1986) (discussing reproduction when "the genetic, gestational, and rearing aspects of reproduction are isolated or recombined in new ways," and considering "the right to separate and combine the various factors of reproduction"); Rosenkranz, *Custom Kids and the Moral Duty to Genetically Engineer Our Children*, 2 HIGH TECH. L.J. 3, 30-36 (1987) (describing Catholic position on inseverability of unitive/procreative functions); Schwartz, Book Review, 89 COLUM. L. REV. 347, 367 (1989) ("The variety of 'fragmented' parenthoods made possible by medical science creates new ways to exploit children and women."); *cf.* Jackson, Baby M *and the Question of Parenthood*, 76 GEO. L.J. 1811, 1813-1816 (discussion of "who is a parent"). *See generally* G. LAKOFF, WOMEN, FIRE, AND DANGEROUS THINGS: WHAT CATEGORIES REVEAL ABOUT THE MIND 74-76, 79-84 (1987) (conceptual analysis of idea of "mother").

One current reproductive issue seems not to involve true fragmentation of life processes but is at least akin to it. Knowledge that women can harm fetuses through certain activities (consuming alcohol, working in toxic environments) crystallizes the perception of separate, divergent interests of parent and child, displacing easy assumptions of unity. (Perhaps the point also applies to all who risk injury to their germ cells, or to men who create teratogenic risks to the fetuses they father.)

17. *Cf.* D. LAMB, DEATH, BRAIN DEATH AND ETHICS 29 (1985):

> Given that brain death follows inevitably from the permanent cessation of heart and lungs, it can be argued that traditional criteria simply inform us that brain death is imminent when it is not possible to apply more sophisticated tests for brain functions. Under normal circumstances essential organs, such as

tensionally equivalent: failure in one meant failure in the other within a short time. Life-support systems, however, can maintain cardiovascular function in the absence of neurological capacity.

A corollary fragmentation is the separation of life as an organism from life as a functioning person.[18] As organisms, the irreversibly "vegetative"[19] live, but as functioning persons, they have died. And so the familiar categories that guide us—"alive," "dead," "sick"—do not comfortably fit what we see. This separation of organic life from life as a person drives a devastating conceptual fragmentation that still knows no clear resolution: there are pressures (formally resisted so far) to characterize as dead those human organisms whose functioning personhood is irretrievably lost—or was never there.[20]

4. There are technologies that may transform and augment our capacities—the use of steroids, growth hormones, and intellect-enhancing agents, for example.[21] They permit the isolation of particular traits from their natural developmental contexts and the alteration of such traits for particular purposes.[22] (Altering one trait may of course affect other traits.) What manner of being are these transformed persons and how shall we deal with them? Who are they? What are they?

5. A simple reproductive/genetic technology allows us to focus on a single trait—sex—and to fix that trait in our children: prenatal diagnosis followed by abortion of the undesired sex. (Developing technologies may avoid abortion by separating X- from Y-bearing sperm.[23])

6. Organ transplantation fragments the boundaries of separate physical individuality (in ways that an appendectomy does not).[24]

---

the heart, lungs and brain, function so closely together that there is little point distinguishing them with regard to human death.

(emphasis deleted). *See also* Wikler, *Not Dead, Not Dying? Ethical Categories and Persistent Vegetative State*, 18 HASTINGS CENTER REP. 41 (1988). For accounts of the life-sustaining technologies involved, see, *e.g.*, BIOETHICS, *supra* note 1, at 608-16.

18. This separation has occurred in the past without the intervention of exotic technologies, but its incidence and visibility—and therefore its impact on our descriptive and normative categories—is far more pronounced now. *See generally* Conservatorship of Drabick, 200 Cal. App. 3d 185, 190, 245 Cal. Rptr. 840 (1988) (patient in persistent vegetative state and breathing without respirator assistance considered alive; physician stated that there was no "sentient, thinking existence" and no "realistic hope for recovery").

19. The term means, roughly, a state of unconsciousness in which higher brain functions are absent, but various bodily functions (breathing, heartbeat, digestion, and reflex activities of certain sorts) continue under the guidance of the brain stem. *E.g.*, A. MEISEL, *supra* note 5, at 138-40.

20. *See supra* note 5 (referring to discussions of proposals to expand the definition of "death").

21. *See infra* note 190. There are, of course, questions concerning the efficacy of purported enhancing agents. *See infra* notes 134 and 189. Some observers question the distinction between augmentation and repair of disorder. *See* Rosenkranz, *supra* note 16, at 5 n.14 (criticizing the therapy-nontherapy distinction).

22. Some may not see trait alteration as a form of "fragmentation." Because it involves separated development, however, it might be included, along with clear fragmentations, in a larger category that designates disturbances of integrated functions. Still more generally, all the examples here are instances of technological control of some persons over others or themselves, but here the level of generality is too great to be very informative. If "fragmentation" seems too strong a term, then "developmental separation" or the like will do for most of the examples discussed.

23. For reviews of efforts to develop preconception technologies, see M. WARREN, GENDERCIDE 6-12 (1985). *See also Sperm Sorter Ensures Sex-Linked Litters*, 136 SCIENCE NEWS 175 (1989) (technique for separating X- and Y-bearing sperm in animals; said to produce rabbit litters of 80 to 90% of one sex or the other).

24. On organ transplantation, see generally Jonsen, *Ethical Issues in Organ Transplantation*, in MEDICAL ETHICS 229-52 (R. Veatch ed. 1989).

None of this is flatly unprecedented. Married couples divorce and the children are distributed; babies are given up for adoption, sundering the family structure built on the unity of sexual reproduction; individuals transform their traits by education, rigorous training, special diets, plastic surgery, and transsexual surgery and medication.[25] Current problems are foreshadowed by prior ones;[26] there is no exception here. But most of the older fragmentations are less striking than the new ones, which deal with the threshold questions of whether and how one is to come into existence, continue in existence, and exist in a certain form, and with whether species identity is to maintain its integrity.[27] These are central matters, to say the least, and technology breaks up their underlying processes and the social patterns and behaviors linked to them.[28]

Assaults on important classification systems that inform our thinking in these domains may aptly be viewed as "intrusive"[29]—particularly where the system of categories seems to be one mandated by whatever moral force nature or authority bears.[30] I will refer later to possible examples of such intrusive assaults involving reproduction (surrogacy, in particular), performance enhancement, and fetal transplantion.

B. *Prejudicial Knowledge*

Fragmentation and reassembly presuppose technique which, in turn, presupposes knowledge.[31] In particular, fragmentation presupposes knowledge that life forms and processes are alterable, manipulable ("to be is to be manipulable"),[32] and predictable in ways that remind one of made rather than found or received entities (such as babies).[33] The mysterious and autonomous processes of reproduction, for example, are now seen as an assemblage of separable and controllable parts. The network of neurotransmitters that seems so heavily to influence thought and behavior suggests chemical machines, as does the very

---

25. *See generally* Ulane v. Eastern Airlines, Inc., 742 F.2d 1081 (7th Cir. 1984) (rejecting transsexual airline pilot's claim of sex discrimination). On "split brains" and "divided consciousness," see J. GLOVER, THE PHILOSOPHY AND PSYCHOLOGY OF PERSONAL IDENTITY 32-46 (1988).

26. Precisely why some events are seen to "foreshadow" others is itself a classification problem, but I will not pursue it specifically.

27. This threat to "species integrity" is not imminent; I do not mean to overstate the power of current technologies or the plans for their implementation.

28. Limiting the fragmentation/reassembly matrix to important life functions and traits that help define identity is necessary to avoid trivializing it. Separation from one's appendix is not free of problems, but they are not of the sort covered here. However, I offer no further explication of "important life functions" or "identity-defining" traits.

29. "Intrusiveness" is an imprecise idea, but one that is central to the way we judge changes in ourselves and the world, and in our systems of thought. *Cf.* Shils, *The Sanctity of Life*, in LIFE OR DEATH: ETHICS AND OPTIONS 32-36 (D. Labby ed. 1969) (acceptable and unacceptable forms of personal transformation).

30. *See infra* notes 41 and 44 (remarks of Bloor and Glover).

31. But not necessarily foundational knowledge of underlying mechanisms or scientific laws.

32. *See* Weinberger, *infra* note 101.

33. *See* D. NELKIN & L. TANCREDI, DANGEROUS DIAGNOSTICS 17 (1989):

> These metaphors of the body and mind ["systems," "chemical building blocks," "hardware," "software"] have, in effect, objectified the person, who becomes less an individual than a set of mechanical parts or chemical processes that can be calibrated or well defined. This objective image of the person has encouraged the use of biological tests as means of classification and as instruments of control.

efficacy of psychoactive therapeutic drugs, even without our knowing exactly how they work. Mazlish, in a strikingly suggestive article written over twenty years ago, alerted us to how knowledge and reconceptualization allow assimilation of persons to animals and machines.[34]

Today's demystifying projects are hard to miss. Consider, for example, the project to sequence the entire human genome,[35] the fast-growing body of information on the chemical "determinants" of behavior,[36] and the still-fumbling efforts at physical and mental performance enhancement.[37]

What is the relevance of knowledge acquisition and loss of mystery to the conceptual map I am constructing? The fully understandable and predictable person is a classification anomaly, a monster: it straddles the borders between humanity and the domains of other life forms and of machines. This, perhaps, is why some critics of developments in biological technology view certain forms of knowledge as, in effect, "prejudicial:"[38] they do more harm than good because, human capacities being what they are, they addle, mislead, inflame, and—in this context—demoralize us. If classification systems are central to description and evaluation, the shattering of those systems leaves us, *pro tanto*, without the means to go about the business of deciding how to think and what to do.[39] I turn next to this matter of classification.

C. *Classification and Human Thought; "Choice" of Conceptual Systems*

1. *Thinking and Monsters*

Abstraction entails classification.[40] The fragmentation and reassembly of the world challenge our classification systems and, therefore, challenge the core

---

34. Mazlish, *supra* note 10. *See also* PRESIDENT'S COMMISSION FOR THE STUDY OF ETHICAL PROBLEMS IN MEDICINE AND BIOMEDICAL AND BEHAVIORAL RESEARCH, SPLICING LIFE 54 (1982) [hereinafter SPLICING LIFE] ("By identifying DNA and learning how to manipulate it, science seems to have reduced people to a set of malleable molecules that can be interchanged with those of species that people regard as inferior.").

35. *See, e.g.*, Roberts, *Genome Mapping Goal Now in Reach*, 244 SCIENCE 424 (1989).

36. *See, e.g.*, van Praag, *Biological Psychiatry Audited*, 176 J. NERVOUS & MENTAL DISEASE 195 (1988); Virkkunen, De Jong, Bartko, Goodwin & Linnoila, *Relationship of Psychobiological Variables to Recidivism in Violent Offenders and Impulsive Fire Setters*, 46 ARCHIVES GEN. PSYCHIATRY 600 (1989).

37. *See infra* text accompanying notes 189-202.

38. That is, the knowledge is both useful ("relevant") and hurtful.

39. Lieber, *A Piece of Yourself in the World*, THE ATLANTIC MONTHLY, June 1989, at 76, 77:

> The pro-life position is no more useful, because frozen embryos, unlike those in a uterus or a laboratory culture, are not fully alive. Nothing can live in liquid nitrogen. Nor are they exactly dead, because more than half can return to life when thawed. "We have a real category problem," says Dr. Kathleen Nolan, of the Hastings Center.

40. This may seem too obvious to require authority, but authorities abound, and the way they put it is illuminating. *E.g.*, G. LAKOFF, *supra* note 16, at 5-6:

> Categorization is not a matter to be taken lightly. There is nothing more basic than categorization to our thought, perception, action, and speech. Every time we see something as a *kind* of thing . . . we are categorizing. Whenever we reason about *kinds* of things . . . we are employing categories. Whenever we intentionally perform any *kind* of action . . . we are using categories . . . . An understanding of how we categorize is central to any understanding of how we think and how we function, and therefore central to an understanding of what makes us human.

(emphasis in original).

See also Feinman, *The Jurisprudence of Classification*, 41 STAN. L. REV. 661, 662 (1989) ("The classification of legal doctrine provides 'the familiar landmarks of thought' that order our understanding of the law."). One

of our descriptive and normative thinking. Fragmentation and reassembly create anomalies—"monsters"—that simply do not fit our forms of thought and discourse.[41] Among the Lele of Africa, for example, "flying squirrels are not

---

might expand the point to cover all cognitive understanding beyond a certain level, but I am not prepared to specify what it is.

Feinman's internal quotation is from M. FOUCAULT, THE ORDER OF THINGS xv (A. Sheridan trans. 1970), itself an interesting exercise in classification analysis in which Foucault begins by discussing to Borges' reference to the classification of animals in a "certain Chinese encyclopaedia," dividing animals into (among other things), "belonging to the Emperor," "embalmed," and "having just broken the water pitcher." *Id.* Foucault goes on to say:

> The fundamental codes of a culture—those governing its language, its schemas of perception, its exchanges, its techniques, its values, the hierarchy of its practices—establish for every man, from the very first, the empirical orders with which he will be dealing and within which he will be at home.

Id. at xx.

41. There are many entries in anthropological and philosophical literatures that vividly illustrate these ideas. *See, e.g.*, Bloor, *Polyhedra and the Abominations of Leviticus: Cognitive Styles in Mathematics*, in ESSAYS IN THE SOCIOLOGY OF PERCEPTION 191, 197-98 (M. Douglas ed. 1982):

> Anthropologists have given us detailed studies of how different social groups endow their world with intellectual coherence. They have found systematically different conceptions of pollution and dirt, edibility and misdemeanour. The proper ordering of social behaviour and relationships, of household space, the passage of time, and the division of labour are all, in their own way, classifications that must be protected against violation. Since Durkheim, anthropologists have argued that the patterns of domestic and common-place life can often be detected in a group's wider system of classifications: those that range over the animal and plant world, and ultimately over the whole of the natural order.
>
> Why is this? One theory is that men use their ideas about Nature and Divinity to legitimate their institutions. It is put around that deviation is unnatural, displeasing to the gods, unhealthy, expensive, and time consuming. These instinctive ruses map nature onto society. Nature becomes a code for talking about society, a language in which justifications and challenges can be expressed. It is a medium of social interaction.
>
> Social arrangements can also be used as models with which to grasp the physical or metaphysical order of things. They are a deep well of metaphorical resources, although the conditions which prompt their use in this way are not yet fully understood. But again, the effect is to produce a structural identity between the social and natural orders. Either way, it is easy to see that classificatory anomalies may take on a moral significance. By these hidden routes they acquire the connotations of irregular social behaviour, which makes a response to them all the more urgent.
>
> One response is to "taboo" the anomaly which violates the classification, declaring it an abomination and seeing it as a symbol of threat and disorder. What were the abominations of Leviticus, asks Mary Douglas, but a list of anomalies to the animal classification so carefully laid down in the Pentateuch. The pig, for example, fails to satisfy all the proper conditions for being a ruminant: it does not both cleave the hoof and chew the cud.
>
> . . . .
>
> What an interesting jolt to turn to Lakatos [in PROOF AND REFUTATIONS: THE LOGIC OF MATHEMATICAL DISCOVERY (1976)] and see that this is exactly how Delta responds to anomalies like the cube with another cube cut out of its middle: "It is a monster, a pathological case, not a counterexample," he cries.
>
> . . .
>
> [T]his whole style of response, which seems to have been very prominent in the history of mathematics, Lakatos dubs "monster-barring."

Mary Douglas observes in M. DOUGLAS, PURITY AND DANGER: AN ANALYSIS OF CONCEPTS OF POLLUTION AND TABOO 196-97 (Pelican ed. 1966):

> Much of [the Lele's] cosmology and much of their social order is reflected in their animal categories. . . . One way or another the animals which they reject as unsuitable for human or female consumption turn out to be ambiguous according to their scheme of classification. Their animal taxonomy separates night from day animals; animals of the above (birds, squirrels and monkeys) from animals of the below: water animals and land animals. Those whose behaviour is ambiguous are treated as anomalies of one kind or another and are struck off someone's diet sheet. For instance, flying squirrels are not unambiguously birds nor animals, and they are avoided by discriminating adults.

unambiguously birds nor animals, and they are avoided by discriminating adults."[42]

What sort of creature is a child with five or more parents—genetic, gestational, and custodial mothers, and genetic and custodial fathers—and what do we do with it? (Who gets custody in a dispute?) What sort of being is a body that pulses and breathes without higher brain functions, that maintains organic life but never evidences cognition or perception—a human organism that doesn't seem to be a person? (And, again, what are we to do? Feed him/her/it? Bury it? Keep it running for use as an organ source?) Persons whose capacities are technologically enhanced, without effort of the usual sort, also escape our categories for appraisal: "merit" is split off from nature and from "trying" and left dangling. Precisely how do we deal with such augmented humans, stronger or more intelligent by our own design? (Keep them out of athletic or academic competition? Give them special educations appropriate to special resources?) What, in general, happens to entities that "don't fit"—the flying squirrels of our own age?[43] What *should* happen?

All of these cases are disturbing, partly because they cannot be assimilated into existing frameworks for recognition and appraisal.[44] The problems are

---

42. See the quotation from Mary Douglas, *supra* note 41. Of course, classification problems (gaps, overinclusive and underinclusive classifications, etc.) are entailed by the various sorts of the vagueness and indeterminacy in all linguistic and conceptual systems.

43. The "fit" or lack of it may not always be immediately apparent. *See, e.g.*, R. DARNTON, THE KISS OF LAMOURETTE: REFLECTIONS IN CULTURAL HISTORY 329-53 (1990), suggesting that seeing "The Great Cat Massacre" in France in 1730 as humorous depends on specifying the conceptual systems through which the event is filtered. "Those [metaphorical] relations cannot be conceived without reference to a set of categories that serve as a grid for sorting out expericence." *Id.* at 336.

44. I wrote earlier in Shapiro, *Choices of the New Technologies*, L.A. Daily Journal, Oct. 31, 1988, at 7, col. 1:

> Another effect of fragmentation is the shattering of the conceptual/classificatory systems through which we see and judge the world. If we don't know whether someone is dead because we don't know the meaning of 'dead,' how can we know what to do with him? . . . Our tools of judgment crumble in this way because reconstructing a broken world presents us with anomalies that escape our familiar classifications . . . . We . . . might view with hostility any creature strange enough to have three mothers. If our received classifications evaporate, and with them our evaluative tools, it is no wonder that we are unsettled. We don't have much left to think *with*.
>
> Jonathan Glover argues in J. GLOVER, WHAT SORT OF PEOPLE SHOULD THERE BE? 40-41 (1984): To the extent that our resistance to genetic mixing is caused by revulsion against anomalies, it is tempting to dismiss it. Perhaps it is no more capable of rational justification than the food taboos of the Lele, and is something we could give up without loss. Some people hate the thought of intermarriage between races, and those of us who do not have that revulsion do not feel we lack anything of value. The temptation to dismiss our resistance as an irrational taboo is one we should mainly yield to. But some qualifications are necessary. . . .
>
> We know rather little about how deep this kind of reaction [against violating taboos] goes, and we should not assume that shedding taboos is without psychological cost.
>
> Another qualification has to do with the effects of making the traditional category boundaries seem less important by blurring them. Our present practice is to act in quite different ways towards humans and towards members of other species. We exploit animals for our food and our research, treating them in ways we would not think of treating even the most subnormal human being. If, instead of there being a clear gap between monkeys and ourselves, genetic mixing resulted in many individuals varying imperceptibly along the continuum between the two species, this might undermine our present belief in the moral importance of the distinction. If it did, the effects might go either way. There might be a beneficial reform in our attitudes towards members of other species. Or their might be a weakening of the prohibitions that now protect weaker or less intelligent humans from the treatment animals are subjected to. If the second possibility is a real danger, there is a strong case for resisting the blurring of this boundary.

strangers. With the boundaries of sets eroded, we are in a continuum or hodgepodge of impressions—not a happy state for creatures needing markers and borders to control their conceptual agoraphobia. The natural and the random are no longer marked off from the designed and manufactured, and persons and objects seem less distinct from each other.[45] For that reason, many technological and accompanying social maneuvers are strongly opposed. Although what cannot fit into a normative classification system may be neither formally rejected nor endorsed by it, the default rule seems often to be that what is not approved is disapproved.

2. *Multiple Aspects and Concurrent Characterizations*

All things are simultaneously members of many sets. Which memberships are likeliest to be perceived and which are the most important? Each category of membership defines a different perspective that requires attention for anything approaching full understanding of a problem.[46] And whenever category boundaries disintegrate and regroup, new perspectives are formed and old ones may pass on. Nevertheless, in much debate about many problems, competing characterizations are overlooked or suppressed. This is, of course, not unexpected, and reflects our aptitudes, deficits, and a certain inertia of thought.[47]

3. *Failure of Category Systems*

By challenging a broad range of the given,[48] fragmentation forcefully reveals the incompleteness, the gaps, and the "deficiencies" of the preexisting failed classification systems.[49] Failure and breakdown display the nature and

---

45. *Cf.* L. TRIBE, CHANNELING TECHNOLOGY THROUGH LAW 189 (1973) ("'right' to a nonmanufactured identity").

46. *E.g.*, G. LAKOFF, *supra* note 16, at 305-06 (discussing alternative scientific conceptualizations of force: "Each such conceptualization is a way of comprehending the domain"); *see also id.* at 201 (discussing "which of two alternative cognitive models should be used to understand a situation where the facts are clear").

47. As Howard Margolis observes:

> In the context of a gestalt drawing, where values are not at stake and choices (acts) are not being faced, it is easy to notice that there are two radically different ways of interpreting the picture; with experience a person gains facility in routinely and at will shifting from one way of seeing the image to the other.
>
> But in the context of social controversy, that is vastly more difficult. Facility at seeing things both ways is a cognitive burden in such a context, where what is immediately useful is to be able to quickly see how a piece of information or an argument fits into the view to which you are committed, and to quickly see something wrong with arguments or information claims that do not fit that view. Consequently, political polarization stimulates cognitive polarization, and in particular encourages the tendency for one view or the other to become dominant (easily seen, comfortably worked with).

H. MARGOLIS, *supra* note 12, at 298-99. *See also infra* note 113.

48. Compare, in the political realm, the French Revolution. Robert Darnton writes, in *What Was Revolutionary About the French Revolution?*, New York Review of Books, Jan. 19, 1989, at 3-6, 10:

> They experienced reality as something that could be destroyed and reconstructed, and they faced seemingly limitless possibilities, both for good and for evil . . . . Possibilism [the sense of boundless possibility] against the givenness of things—those were the forces pitted against each other in France from 1789 to 1799. [The] conflicts [of the revolution] were predicated on something greater than the sum of their parts—a conviction that the human condition is malleable, not fixed, and that ordinary people can make history instead of suffering it.

49. *See supra* notes 41 and 44 (remarks of Bloor and Glover).

limitations of implements and techniques.[50] The same is true of our thinking tools. One of the major risks of new technologies and new social arrangements is not merely that of practical failure, which may be rare, but of conceptual and therefore moral failure involving a breakdown of existing modes of categorization and evaluation that leaves us with only shards from our customary decision making implements.

"Custody disputes" arising from surrogate motherhood or involving cryopreserved embryos are striking examples. In *In re Baby M*,[51] the genetic father and the surrogate mother each sought custody of the child. In *Davis v. Davis*,[52] divorcing spouses fought over disposition of cryopreserved embryos—the loosed fragments of reproductive technology. The wife wanted them implanted in her, the husband didn't want them implanted in anyone. These disputes, generated by the severing of different elements of reproduction, represent more than the violation of an agreement or the decay of a marriage. Even if most surrogacy contracts are carried out as agreed without resort to judicial enforcement (some claim over 99% are so executed),[53] the few that fail may do so spectacularly because the conflicts involved—if not the persons—are monsters. A standard conflict—say, a custody dispute between parents—is more understandable; it "fits" in. Such familiar fragmentations don't carve up a unitary life process.

When reproduction is separated into segments, then, the resulting conflicts may fall outside our preexisting patterns of coherence. Custody battles in surrogacy seem different from those involving standard forms of family breakdown. And when the surrogate mother relinquishes the child, we have difficulty evaluating her motivations because she offers no standard reasons for the voluntary "abandonment" of her child: she's not too young, she's not incompetent or disabled, and she's not destitute—she can afford to raise the child on her own.[54]

---

50. *Cf.* M. HEIDEGGER, BEING AND TIME 105 (J. Macquarrie & E. Robinson trans. & eds. 1982):

> [W]hen something ready-to-hand is found missing, though its everyday presence has been so obvious that we have never taken any notice of it, this makes a *break* in those referential contexts which circumspection discovers. Our circumspection comes up against emptiness, and now sees for the first time *what* the missing article was ready-to-hand *with*, and *what* it was ready-to-hand *for*. The environment announces itself afresh.

Cf. G. LAKOFF, *supra* note 16, at 6 ("[m]ost categorization is automatic and unconscious, and if we become aware of it at all, it is only in problematic cases."); M. HEIDEGGER, THE QUESTION CONCERNING TECHNOLOGY 12, 14 (1977):

> Technology is therefore no mere means. Technology is a way of revealing. . . . It is the realm of revealing, *i.e.*, of truth.
>
> . . .
>
> [A] tract of land is challenged into the putting out of coal and ore. The earth now reveals itself as a coal mining district, the soil as a mineral deposit.

One might add that technology and technological failure can reveal the "limitations" of a conceptual system not designed to deal with it, though reasonably adequate for the status quo.

51. 109 N.J. 396, 537 A.2d 1227 (1988).

52. 15 Fam. L. Rep. (B.N.A.) 2097 (Cir. Ct., Tenn. 1989).

53. *See* Schuck, *Some Reflections on the* Baby M *Case*, 76 Geo. L.J. 1759, 1801 n.30 (1988) (reporting an interview with Noel Keane in which it was said that nine problem cases out of about 600 surrogacy cases have arisen, with four (*Baby M* included) going to court.).

54. *But cf.* Radin, *Market—Inalienability*, 100 HARV. L. REV. 1849, 1927 (1987) ("we do not fear relinquishment of children unless it is accompanied by market rhetoric"). *See generally* J. BOSWELL, THE KINDNESS OF STRANGERS: THE ABANDONMENT OF CHILDREN IN WESTERN EUROPE FROM LATE ANTIQUITY TO THE RENAISSANCE (1988).

We also have no clear way to assess the relationship between the biological father and the surrogate.[55] And in such circumstances, it is unsettling to apply the idea of beneficence to transfers of children. Who knows what will promote the child's best interests?

When reproductive problems shift to questions about embryo transfer, the status and disposition of frozen gametes and embryos, and the like, the idea of "family" becomes a less useful tool for judging actions, for the very genus "family" does not clearly comprehend the new situation. The idea of family seems to presuppose the prefragmented unity of reproduction. Fragmentation, then, risks failure—not merely of technology,[56] but of thought.[57]

This perceptual/cognitive challenge is thus no minor matter.[58] For one thing, much of distinctively human thought rests on classification and categorization, establishment of paradigms, and comparison of a problem at hand with the paradigms.[59] This is the very stuff of understanding and decisionmaking, yet it is rarely attended to consciously.[60] Every classification system is in effect a set of models for description, evaluation, and action-justification.[61] A particular classification system may be viewed by many as informed by nature. If they also see nature as endowed with normative force,[62] challenges to categories and paradigms may appear as challenges to valuation schemes imposed "from above"[63] and hence authoritative.[64] The reigning conceptual systems are thus not only the default guides but provide decisive criteria for choice.

---

55. *See* Allen, *Privacy, Surrogacy, and the* Baby M *Case*, 76 GEO. L.J. 1759, 1778-82 (1988) (discussing the "contractual couple").

56. *Cf.* Capron, *"So Quick Bright Things Come to Confusion,"* 13 AM. J. LAW & MED. 169, 176 (1987) (discussing failures to prevent or cure disease, to provide benefits from therapy, and to rationalize health care).

57. *Cf.* Seidman, *supra* note 8, at 1833:

> [S]urrogacy arrangements threaten traditional ideas about family and reproduction in ways that subtly but powerfully influence our culture. Strangers to the contract may simply not want to live in a society where such arrangements are common. If our institutions are really to be neutral with regard to competing preferences, then this preference must be allowed to count.

58. *See generally* G. LAKOFF, *supra* note 16, at 337 (holding that "differences in conceptual systems affect behavior in a significant way"); R. UNGER, PASSION: AN ESSAY ON PERSONALITY 21 (1984) ("without these categories the imagination cannot work. But with them we cannot easily prevent ourselves from becoming the unwitting reproducers of a shared picture of the world. If we stray too far or too quickly from the collective script we are left without a way to converse.").

59. *Cf.* A. JONSEN & S. TOULMIN, THE ABUSE OF CASUISTRY 252, 306-26 (1988) (the role of paradigmatic reasoning in casuistry).

60. *Cf.* G. LAKOFF & M. JOHNSON, METAPHORS WE LIVE BY 3 (1980) [hereinafter METAPHORS] ("[O]ur conceptual system is not something we are normally aware of. In most of the little things we do every day, we simply think and act more or less automatically along certain lines. Just what these lines are is by no means obvious."). Although the role of classification may not ordinarily be noticed in daily life, it often seems more apparent in legal analysis. Some recent additions to the scholarly literature have focused on matters of cognition and categorization. *See infra* notes 71 and 108.

61. *See* Shapiro, *Some Conceptual Tools for Appraising Psychosurgery*, in THE PSYCHOSURGERY DEBATE 271, 289 (E. Valenstein ed. 1980) (review of descriptive, evaluative, and action-justifying models).

62. See the remarks of Bloor, *supra* note 41. Of course, it is no easy task to identify and distinguish the "natural."

63. This is Max Weber's phrase. 2 M. WEBER, ECONOMY AND SOCIETY 760 (1978).

64. D'Amico argues in D'Amico, *Relativism and Conceptual Schemes*, 18 PHIL. SOC. SCI. 201 (1988), that "[i]n traditional societies the entire social structure is built around preserving and conserving the total belief system against transgression." *Id.* at 206.

These categorical or system failures are thus arresting. They call attention to the shredding of the classification systems that mediate our evaluations. The limits and deficiencies of our systems of thinking are revealed and defined by the failure.[65] For that reason, the empirical incidence of failure may understate the risks involved. Even if relatively few surrogacy contracts fail,[66] the few failures can be massively demoralizing because they display unanticipated and hard-to-handle deficiencies in normative systems: they are pathological—they are not part of the normal array of indeterminacies that characterize any scheme of categorization or thought. The failures also may cast doubt on the integrity of whole systems or substantial parts of them: clocks that strike thirteen . . . . Demoralization can be contagious.[67]

Consider the Malahoff case, for example, in which a sperm donor in a surrogacy case refused to accept a microcephalic child. Blood tests showed he was not the father of the child, so his paternal obligation was not closely examined. But before the test results were known, there was a clear possibility that a genetic father would reject his own child because of its traits, in violation of an agreement. Imagine the play of events, then, if the donor had been the genetic father. The failure represented here is not just a minor glitch, but a failure that reveals a serious problem in thought and in action.[68] It impeaches the entire practice. It is not surprising that communities and individuals are slow to confront their deficits, and may try to avoid whole categories of conduct in order to avoid only a few demoralizing failures.

4. *Choice of Classification or Conceptual Systems*[69]

Classification challenges, alternative classification systems, and the effects of classification failure all suggest the need to amend and choose among conceptual systems. Although many classification systems seem non-optional because they reflect natural kinds[70] or are thought to be mandated by authority, we may in fact have a wide range of "choice" in selecting conceptual systems (though the choices are not necessarily conscious).[71] Even if we are bent on preserving or

---

65. See the remarks of Heidegger, *supra* note 50. As my colleague Ronald Garet has suggested that such failures, when perceived as rending one's own belief system, may challenge one's sense of identity; our self-images are bound up with the evaluative tools we use in our lives.

66. *See* Schuck, *supra* note 53.

67. *Cf.* H. MARGOLIS, *supra* note 12, at 172 (contagion of radically new idea).

68. The case is discussed in L. ANDREWS, *infra* note 85, at 40-46. The author states elswhere that a "Michigan legislator feels that the Stiver-Malahoff incident is evidence of why surrogate parenting should not exist at all." L. ANDREWS, *infra* note 120, at 241.

69. This topic is addressed at length by linguists and cognitive psychologists. *See, e.g.*, G. LAKOFF, *supra* note 16.

70. On natural kind terms, see H. PUTNAM, REASON, TRUTH AND HISTORY 22-25 (1981).

71. "Can you choose your conceptual system, or is your conceptual system beyond your control?" G. LAKOFF, *supra* note 16, at 325. *See also supra* notes 50 and 60 (remarks of Lakoff). *See generally* Winter, *Transcendental Nonsense, Metaphoric Reasoning and the Cognitive Stakes for Law*, 137 U. PA. L. REV. 1105, 1108 (1989) (describing competing views, and stating that "the positions I refer to as 'relativist' assert that reasoning and categorization are not natural or given, but rather are relative to particular languages, cultures, histories, or conceptual schemes."). *See also* D. HULL, *supra* note 10.

restoring conceptual and normative order, any given scheme of categories can be revised or abandoned.[72]

Theories about choice of conceptual systems are, in a way, "theories of everything," and I am hardly going to construct such a theory here.[73] I mention only that particular conceptual schemes may have constrictive (or expansive) effects on the course of human thought.[74] Needham, for example, claims that certain Chinese systems of thought tended to stifle scientific progress past a certain point.[75] Whether or not this particular claim is correct, our choice of

---

72. *See supra* text accompanying note 8; *cf.* Seidman, *supra* note 8, at 1836:

> *Baby M* threatens to deprive us of this myth . . . ["that there is a 'natural' ordering based upon genetics and preordained family roles"]. Revolutions in birth technology have made it plain that what was once thought of as 'natural' or inevitable is now within our control. These changes, in turn, are part of a broader social movement that has convinced a growing number of people that the structure of families generally and the roles of those within them are not immutable.

In positing the revision of categories, I am avoiding some questions about conceptual relativism, conceptual equivalence, and the translatability or commensurability of languages and conceptual schemes. On the problem of commensurability of conceptual or linguistic systems, see G. LAKOFF, *supra* note 16, at 322-24.

I add that I am not identifying language with conceptual scheme, though particular languages may be associated with particular schemes. *See generally* D. DAVIDSON, *On the Very Idea of a Conceptual Scheme*, in INQUIRIES INTO TRUTH AND INTERPRETATION 183, 184, 191 (1984). *Cf.* Whorf, *The Punctual and Segmentative Aspects of Verbs in Hopi*, in LANGUAGE, THOUGHT AND REALITY: THE SELECTED WRITINGS OF BENJAMIN LEE WHORF 51, 55 (J. Carroll ed. 1956):

> We are inclined to think of language simply as a technique of expression, and not to realize that language first of all is a classification and arrangement of the stream of sensory experience which results in a certain world-order, a certain segment of the world that is easily expressible by the type of symbolic means that language employs. In other words, language does in a cruder but also in a broader and more versatile way the same thing that science does.

73. One aspect of choice of conceptual systems involves discerning the criteria for choosing from a set of systems where all lead to the same result in application. ("Same result" refers simply to adjudicatory or decisional outcomes—*i.e.*, to answers to general, bottom-line questions such as, "Is this right?" or "Does plaintiff win?" *Cf.* G. LAKOFF, *supra* note 16, at 201 (raising the question of which alternative cognitive models should be used to understand situations in which the facts are clear.) For example, it is likely that many constitutional cases could, without strain, reach the same result whether current standards of review or a "spectrum" standard were used. For an account of the idea of a spectrum standard, see San Antonio Indep. School Dist. v. Rodriguez, 411 U.S. 1, 98-99 (1973) (Marshall, J., dissenting). Another example concerns whether certain expressive conduct should be viewed as first amendment speech. For example, in Clark v. Community for Creative Non-Violence, 468 U.S. 288 (1984), Justice White's opinion for the Court assumed sleeping in a park could be expressive conduct, as did Justice Marshall's dissent, but Chief Justice Burger's concurrence rejected that possibility.

Factors affecting choice of conceptual systems (different results aside) include: value reinforcement (perhaps named standards of review like "strict scrutiny" convey a sense of the importance of the interests at stake; perhaps including certain expressive conduct within first amendment speech honors it unjustly even if it is ultimately unprotected); conceptual "efficiency" or parsimony; coherent relation to neighboring conceptual schemes; our cognitive aptitudes and deficits; and historical accident. If given conceptual systems reinforce certain values and lead to behavioral changes, then the system can lead to different results in the long run, and that is also a criterion of choice. *Cf.* Radin, *supra* note 54, at 1878. Radin denies that radically different normative discourses can reach the "same" result. *Id.* That use of "result," however, comprehends long-term consequences. My use is far narrower—a decisional outcome or adjudicatory result. As I suggested, however, one criterion for choice of conceptual system rests on matters of value reinforcement that do indeed bear on learning and behavior *over time*.

In general, investigating choice of conceptual systems where the results of their application may be different is certainly illuminating, but investigating choice among systems that in some sense yield the same immediate outcome may also yield interesting results about the construction of normative systems and about our habits of perception and thought.

74. *Cf.* Chase, *Foreword*, in LANGUAGE, THOUGHT AND REALITY: THE SELECTED WRITINGS OF BENJAMIN LEE WHORF v (J. Carroll ed. 1956) ("[Whorf] grasped the relationship between human language and human thinking, how language indeed can shape our innermost thoughts."). For a summary of Whorf's views, see G. LAKOFF, *supra* note 16, at 328-30.

75. J. NEEDHAM, 2 SCIENCE AND CIVILIZATION IN CHINA 304, 335, 336, 340 (1962).

conceptual schemes influences how we think and decide and reflects how we have thought and decided in the past. The schemes are not merely abstract categories—they are forms of discourse and judgment that lead to action and affect our preferences and attitudes: conceptual systems are learned, and once learned, teach. Of course, the constricting and liberating effects of systems of thought have always been with us, but the truth of this has been made clearer by technological development.

Foucault's commentary on Borges' reference to animal classifications also suggests the idea of choice of conceptual systems.[76] He notes that one of the classifying criteria is "included in this classification." "The central category of animals 'included in the present classification', with its explicit reference to paradoxes we are familiar with, is indication enough that we shall never succeed in defining a stable relation of contained to container between each of these categories and that which includes them. . . ."[77]

It may not be of much practical value simply to offer that certain orders "are perhaps not the only possible ones or the best ones."[78] But it is nevertheless instructive to see that the particular force of certain problems is precisely that they challenge order and invite us to consider new orders.[79] It is also instructive to note that conceptual orders that have evolved may have something to commend them: moral conservatism is hardly irrational, and reflects our investment in a normative conceptual system.[80] Indeed, it may be that some part of our communal and personal lives is devoted to maintaining beliefs and myths about the completeness and determinacy of our systems of categories.[81]

D. *Reassembly*

With fragmentation comes the possibility of reassembly. We can construct new unities, new wholes, and new classifications, though we may decline to do so. In many cases, it will not be obvious what new unities should be preferred when a large array of choices is presented. It may be that some reassemblies will be avoided because they bear the aura of monstrosity, given the sway of a weakened but still partly authoritative conceptual system. Consider, for example, genetic recombinations (as with human-nonhuman hybrids);[82] certain trait

---

76. *See* M. FOUCAULT, *supra* note 40.

77. *Id.* at xviii.

78. *Id.* at xx.

79. *See* Wiggin's remarks, *infra* note 148.

80. *Cf.* H. MARGOLIS, *supra* note 12, at 298-99 ("seeing things both ways is a cognitive burden" in certain contexts).

81. Moore, *Epilogue*, in SYMBOL AND POLITICS IN COMMUNAL IDEOLOGY 221-22 (B. Myerhoff & S. Moore eds. 1975) (rituals, laws, customs, etc. used "to fix social life, to keep it from slipping into a sea of indeterminacy").

82. *See* SPLICING LIFE, *supra* note 34, at 56-60 (creating new life forms; human/nonhuman hybrids). Such mixtures involving animals and plants occur regularly in the laboratory. See the reference to mice whose genomes were altered by introduction of rat genes coding for growth hormone, *infra* text accompanying note 89.

Consider also the possibility of "artificial life." *See generally* Amato, *Artificial Life: Stepping Closer to Reality*, 137 SCIENCE NEWS 86 (1990) (computer, chemical, mathematical, and robotic systems that behave like certain living forms). Here, the "fragmentation" that drives the reassembly does not generally involve biological material.

enhancements (powers augmented beyond the supposed limits of human ability);[83] and reproductive arrangements (*e.g.*, a woman implanted with an ovum from her daughter, bearing triplets who were her own grandchildren, and who were also, in a gestational sense, her daughter's siblings).[84] Should the idea of the unitary family as we know it be revised into something else to accommodate and de-stigmatise some of the new recombinations?[85] Should the revision attempt to match as closely as possible the original paradigm? (To the extent that existing categories and exemplars are felt to reflect moral truths, one would think so.) Should personal preference in a "market for traits" determine which individual characteristics can be isolated from their contexts and molded or augmented?[86] And where we cannot physically reassemble—we cannot, for example, restore the personhood of irreversibly vegetative patients—how should we conceptually reassemble and retool the categories we formerly used to make decisions? Should "death" be expanded to cover irretrievable loss of personhood, even when organic life continues? (This is a form of conceptual reassembly: as I said, "reassembly," like "fragmentation," applies to a wide range of entities.)

I do not suggest that we are totally at sea in our reassemblies. In some cases, existing moral standards applied even to drastically new situations may give us clear direction. But in others, the loss or attenuation of our main models for appraisal and justification of conduct may leave us bewildered, with the very idea of being able to reconstruct certain aspects of our lives and persons felt as an anomalous pressure.[87]

---

83. *See infra* text accompanying notes 189-202 (performance enhancement); *supra* note 25 (transsexual surgery). Trait alteration has concurrent aspects of both fragmentation and reassembly. The traits isolated for change are part a larger, integrated set of characteristics, and their alteration thus revises and "reassembles" the person.

84. The event is described in Capron, *supra* note 56, at 174, in a section entitled "The Challenge to the Old Order."

85. *Cf.* L. ANDREWS, BETWEEN STRANGERS: SURROGATE MOTHERS, EXPECTANT FATHERS, & BRAVE NEW BABIES 272 (1989) (quoting Hilary Hanafin):

> We need to reassess the values, beliefs, and assumptions of our culture and of our profession regarding acceptable ways to create families. We may now have to question what is commonly perceived in our society as an absolute attachment that every [woman] feels to every child she carried. Perhaps surrogacy will become another behavior that we will come to understand as not pathological, but as one that broadens the continuum and definition of what humans can think and feel.

See also id. at 280 (quoting William Handel):

> [W]hen I talk about changing parental concepts in surrogate motherhood, I do so in a very conservative manner. I'm still saying in the end there's one mom and one dad who should raise the kid just like my mom and my dad raised me. I think it's complicated enough growing up with just one set of moms and dads. But it's possible the future will bring a relationship with the genetic mom, the gestational mom, and the rearing mom. I'm not saying that it is inherently wrong, it's beyond my notion of understanding.

86. See the reference to the possibility of a genetic "supermarket" in R. NOZICK, ANARCHY, STATE, AND UTOPIA 315 n.* (1974).

87. *Cf.* M. FOUCAULT, *supra* note 40, at xvii:

> That passage from Borges [concerning animal classifications, *supra* note 40] kept me laughing a long time, though not without a certain uneasiness that I found hard to shake off. Perhaps because there arose in its wake the suspicion that there is a worse kind of disorder than that of the *incongruous*, the linking together of things that are inappropriate; I mean the disorder in which fragments of a large number of possible orders glitter separately in the dimension, without law or geometry, of the *heteroclite* [the irregular or anomalous] . . . .

The fragmentation-reassembly sequence, whatever its form, brings certain risks. The "objectification" of persons seems to many to be the central nightmare of the "new biology." This "devolution" is the next topic.

III. THE DESCENT FROM PERSON TO OBJECT

A. *Choice and the Contingency of Duties: The Problem of Too Many Options*

1. *The Connection Between Choice and Contingency*

The very existence of choice concerning formerly immutable matters may threaten certain values and attitudes (perhaps more so than the actual choices made).[88] Suppose, for example, that we try to incorporate genes that code for growth hormone into early human embryos, thus (in some cases) enhancing the size of the offspring. (Large mice have been engineered in this way using rat genes that code for growth hormone.)[89]

Now think of the ideal of the parent-child bond.[90] We think, in our finer moments, that we are supposed to accept unconditionally whatever children we receive, whatever traits they have. Our compromises with this ideal—adoption, abandonment, abuse, and infanticide—are at best suspect and at worst criminal. We endorse (or tolerate) severing of the bond and the termination of obligations only when it promotes the best interests of the child. However, the risk posed by "reassembly" of persons (or persons-to-be) through trait specification is that our acceptance and fidelity will become contingent[91] on the success of our augmentative plans, as measured ultimately by the success of the persons designed. To

---

(emphasis in original). *Cf. also* Delgado, *Parental Preference and Selective Abortion: A Commentary on* Roe v. Wade, Doe v. Bolton, *and the Shape of Things to Come*, 1974 WASH. U.L.Q. 203, 225 ("If the human personality can be modified by means that do not violate the Bill of Rights, the question then becomes, what range of target personalities is permissible? What kind of person can be created?").

88. On "too much choice" generally, see Dworkin, *Is More Choice Better Than Less?*, 7 MIDWEST STUD. PHIL. 47 (1982).

89. For a description of the process, see D. SUZUKI & P. KNUDTSON, GENETHICS 182-83, 203 (1989). Some of the mice transmitted the enhanced trait to descendants.

90. *Cf.* R. NOZICK, THE EXAMINED LIFE 28 (1989) ("There is no bond I know stronger than being a parent.").

"Bond" may mean a number of things. I am referring primarily to feelings of duty, loyalty, allegiance, connection, and the like. I am not directly inquiring into the nature and limits of our moral duties to others, nor into the psychology or physiology of parental bonding.

91. To offer a rigorous account of "*A* is contingent on *B*" is beyond the scope of this article, but it is worth stressing that a full explanation must specify just what is contingent on what (*e.g.*, recognition of a duty or developing a feeling of attachment as contingent on whether a genetic augmentation plan for one's child has "worked"), and address the nature of the connection between *A* and *B* (is *B* a sufficient condition, a necessary condition, or a "predisposing factor" affecting probabilities?). Of course, the actual occurrence of parent-child bonding is not "noncontingent." The incidence of bonding failures is substantial, and may rest on a variety of causes, not limited to disappointment with the child's characteristics or the failure of an augmentation plan.

For uses of the idea of contingency in other contexts, see Grey, *Property and Need: The Welfare State and Theories of Distributive Justice*, 28 STAN. L. REV. 877, 897 (1976) (community ideals cannot be fully realized in voluntary associations because support from others is contingent on one's ability to offer corresponding advantages); Tribe, *Policy Science: Analysis or Ideology*, 2 PHIL. & PUB. AFF. 66, 88 (1972) (recognition of entitlements to something would be incompatible with making its enjoyment contingent on paying others not to deprive one of it).

accept imperfection when the provider is a genetic lottery is one thing; to do so when we ourselves have designed what we get is something else.[92]

This contingency-devaluation risk exists for any important trait we single out—physical or mental—including the child's sex. We may replace the (felt) absolute nature of our duties of care and respect for natural persons with the contingency of respect and care we generally accord to artifacts—things that are transformed or reassembled from other things and can be held for sale or transfer. The "fragmentation, classification-challenge, and reassembly" process thus places at risk the noncontingent bonds between us and those supposedly in our care.[93]

"Is this necessarily a bad thing?" is a perfectly obvious question here. Is recategorization and reconceptualization to fit an emerging reality even presumptively wrong?[94] Perhaps we would be better (or no worse) off if bonds and interpersonal duties became contingent in the way described.[95] But I cannot counter this here with an essay on moral conservatism. It is enough to explain the feeling of moral unsettlement when reigning postulates of fact and value bump into new arrangements of the world and batter our normative classifications.

2. *Too Many Options?*

The contingency-devaluation risk suggests an acute value conflict. Autonomy is partly a function of range of opportunities.[96] But enlarging the range of opportunities is precisely what places the architecture of the value system in danger. The opportunities relevant here are about how to carve up and reconstitute the world and our descriptive and normative categories with it. Such new choices may make us normatively worse off by creating new responsibilities and new opportunities for culpability (though normatively better off in providing opportunities for heroism). New choice may thus be too much choice. It is not enough to say choices can be declined: the point, again, concerns the very exis-

---

92. I am not suggesting that whatever nature's lottery provides automatically generates strong, absolute bonds.

93. *Cf.* J. GLOVER ET AL., ETHICS OF NEW REPRODUCTIVE TECHNOLOGIES: THE GLOVER REPORT TO THE EUROPEAN COMMISSION 143 (1989); PRESIDENT'S COMMISSION FOR THE STUDY OF ETHICAL PROBLEMS IN MEDICINE AND BIOMEDICAL AND BEHAVIORAL RESEARCH, SCREENING AND COUNSELING FOR GENETIC CONDITIONS 57 (1983) ("[P]arental concern with the sex of the fetus (to the point of aborting one of the undesired sex) seems incompatible with the attitude of virtually unconditional acceptance that developmental psychologists have found to be essential to successful parenting."); Brooks, *Dogs and Slaves: Genetics, Exploitation and Morality*, 88 PROC. ARISTOTELIAN SOC'Y 31, 48 (1987-88):

> A mother does not shop around amongst babies or go through prospectuses for future adults. [Compare adoption.] . . . We gain the security that we do from a mother's love because it does not have to be earned and will not be transferred to the child next door in the event of misbehaviour. This unconditional love is one of the foundations of human existence.

We deeply suspect actions that seem inconsistent with this "unconditionality."

94. See the remarks quoted in L. ANDREWS, *supra* note 85.

95. *See Gregor Samsa Replies*, 83 NW. U.L. REV. 1024, 1025 (1989) ("Freedom is a commitment to the infinite plasticity of human nature, to the contingency of everything (*all* our words, *all* our concepts, *all* our law)). (emphasis in original) (Opinion of a large insect.).

96. *See* Shapiro, *Is Autonomy Broke?*, 12 LAW & HUMAN BEHAV. 353, 383-85 (1988).

tence of choice as a value threat and a source of demoralization.[97] (I add that the point here is not to claim that we are likely to become so addled by information or alternatives that we will make too many foolish decisions.)[98]

B. *Commodification and Objectification*

1. *In General*

The ideas of "commodification" and erosion[99] of noncontingent bonds are closely aligned.[100] The core idea is that reassembly suggests the "thinghood" or commercial status of the reassembled entity, process, or relationship. Those reassamblages, so it is argued, present themselves as artifacts or commodities—the result of artificial production processes, often coupled with market transactions. Consider, for example, persons augmented by steroids, growth hormone, or germ-line genetic engineering; transferred embryos; the relationship between parents and their designed offspring; and the relationship between a genetic father and a genetic surrogate mother. For any of these constructs, our bonds to them may, as some fear, come to resemble our bonds to commercial objects. Such bonds are contingent on the object's utility, on whether it is a successful instance of the plan that created it as a product. If so, they are not true bonds of loyalty, affection, or care. Constructs are in the wrong category for forging those bonds.

Such outcomes are much discussed in the literature (though not necessarily in the terms used here) and are legitimate concerns.[101] In some cases the concern may be persuasive, but, as I argue later, the danger is often exaggerated.

---

97. This idea of choice as a value-threatening culprit arises in a variety of contexts (*e.g.*, nonmandatory provision of emergency or other important medical care; choice of disease categories for treatment and research support; and so on). *See generally*, Shapiro, *supra* note 8, at 26.

98. *See* Shapiro, *supra* note 96, at 372.

99. The idea of "eroding" or "compromising" a value is complex, but here I refer mainly to the learning effects of observing conduct perceived as inconsistent with the value, and to the additional learning effects of one's acting in parallel with such conduct.

100. The "alignment" needs to be worked out. Perhaps erosion of bonds is a definitional criterion of commodification; I leave the matter aside. For an extended analysis of the idea of commodification, see generally Radin, *supra* note 54. Note particularly the remarks at 1859-60 n.44 on the indicia of commodification, discussing exchange value and fungibility.

101. *E.g.*, Weinberger, *Liberal Democracy and the Problem of Technology*, in DEMOCRATIC THEORY AND TECHNOLOGICAL SOCIETY 125, 127 (R. Day et al. eds. 1988):

> For the right, liberal individualism isolates the human person from every location that gives life depth and meaning. If to be is to be manipulable, and if the medium for exchanging the products of such manipulation is money, then for liberals there is literally nothing that money cannot buy. Technological liberal democracy thus transforms human experience into an endless business transaction, with every human possibility or value being interchangeable and thus ultimately the same. . . . [F]or the left, the danger of technology is not the disappearance of rank, order and mystery from the community of life. Rather, the left argues that the techno-scientific project at once hides the possibilities of human practice, understood not as political art but rather as free communication between equals, with forms of domination . . . .

2. *Objects and Commodities*

First, it may be better to talk of "objectification" rather than "commodification," which suggests the presence of commerce—exchange of value.[102] Paying money for a child may well be a feature of the child's status as a commodity, but more generally, it suggests that the child is an object, and one can become an object without commerce as the prime element of the objectification process. We might, for example, give a child growth hormone to enhance short stature or increase athletic ability.[103] We might even insert genes that code for growth hormone into the early embryo for similar purposes. Long-term commercial rewards may be expected, but such expectations are not essential to the objectification process.

I cannot give a full account of "being an object"—that would entail a complete theory of personhood. But one feature of being an object seems to be that its full value can be exhaustively captured by specifying the uses to which it can be put for others.[104] This may be reflected in the object's exchange value, or its interchangeability with similar objects (fungibility). Because its full value can be so captured, the object is not viewed as autonomous or capable of virtue and is owed no corresponding duties. The object can thus be altered from its "natural" state and managed or transferred without our attending to its needs for its sake. Whatever duties we have concerning the object are contingent on its utility, whether preexisting or the result of our tinkering. On this general account, both living and nonliving things may be objects. (Of course, certain objects may have special value to particular persons, and so may be dealt with in more "respectful" ways.)[105]

3. *Transformations: The Components of Objectification and Commodification*

If human beings or human material are dealt with in ways associated with objects, the fear is that we will transfer the object status to humans generally—a slippery slope argument based on association of ideas, as suggested below.[106] What are these modes of objectification? They include: (a) sale, transfer, or other economic exchange (of persons, body parts, genetic material, etc.); (b) manipulation of or tinkering with physical or mental functions—at least without authorization, or (in some cases) without a disorder-based justification; and (c) alteration of genetic material. Some supposed examples are discussed later.[107]

---

102. *See infra* note 104.

103. *See* Kolata, *New Growth Industry in Human Growth Hormone*, 234 SCIENCE 22 (1986) (parental pressures for use of growth enhancers). *See also* the remarks of Patlak, *infra* note 182; *cf.* Radin, *supra* note 54, at 1925 (suggesting another direction for commodification—when a baby becomes commodified, so do its traits).

104. Exchangeability does not seem necessary for objectified status.

105. *See generally* Radin, *Property and Personhood*, 34 STAN. L. REV. 957 (1982).

106. *See infra* text accompanying notes 113-23.

107. *See infra* text accompanying notes 159-202.

4. *Learning and Cognition*

a. *In General*

Thus far, the anti-technology argument from objectification is seriously incomplete. All we have is a thin account of what it is to be an object and a suggestion that certain ways of dealing with persons and their traits look a bit like ways of dealing with things that are obviously objects or commodities. But so what?

The account can be elaborated by referring to learning and its connection with the familiar notion of association of ideas.[108] Fragmentation and reassembly are processes ordinarily associated with the manufacture of products or the rendition of services for a price, and with the use of nonhuman life (as with animal or plant breeding or other genetic engineering programs).[109] Our associative abilities connect "assembly," "design," and "construction" with what we build, use, eat, or discard. Or so the argument goes. "Tis plain, that in the course of our thinking, and in the constant revolution of our ideas, our imagination runs easily from one idea to any other that *resembles* it, and that this quality alone is to the fancy a sufficient bond and association."[110] Worse, the idea of product suggests that of product quality, product rejection, and product improvement.[111] Human beings, on the other hand, are brought to us not by our assembly, but by dimly seen and ill-understood natural processes. Even the perceived possibility of dividing and reconstituting the reproductive process may cause the association of persons with objects. There is thus some risk that we will come to view and treat persons as artifacts that are to be priced or tinkered with.[112] Again, the very existence of choice is the culprit: the choices are those associated with assembled objects. Too much choice?

b. *The Audience at Risk*

It appears, then, that our very aptitudes at thinking by association create dangers, which are in turn compounded by our deficits in judging categories and

---

108. There has been a spurt of literature in the law reviews focusing on theories of cognition and their uses in legal studies. *See, e.g.*, Feinman, *supra* note 40; Gjerdingen, *The Coase Theorem and the Psychology of Common—Law Thought*, 56 S. CAL. L. REV. 711 (1983); Schlag, *Missing Pieces: A Cognitive Approach to Law*, 67 TEX. L. REV. 1195 (1989); Winter, *The Cognitive Dimension of the Agon Between Legal Power and Narrative Meaning*, 87 MICH. L. REV. 2225 (1989); Winter, *supra* note 71. On association of ideas, Hume is still a good source. *See* D. HUME, A TREATISE OF HUMAN NATURE 10-13 (L.A. Selby-Bigge ed. 1888).

109. *E.g.*, Sun, *The Global Flight* [sic] *Over Plant Genes*, 231 SCIENCE 445 (1986) (plant breeding); Pursel *et al*, *Genetic Engineering of Livestock*, 244 SCIENCE 1281 (1989).

110. D. HUME, *supra* note 108, at 11 (emphasis in original).

111. O'Brien, *Commercial Conceptions: A Breeding Ground for Surrogacy*, 65 N.C.L. REV. 127, 146 (1986) ("a market mechanism for acquiring a child fosters an expectation, perhaps a demand, for product quality"); *Looking Toward the Future: Feminism and Reproductive Technologies*, 37 BUFFALO L. REV. 203, 214 (1988/89) (remarks of Rothman from an edited transcript of a panel discussion in which motherhood is viewed as a production process; view of baby as "purchasable and perfectable").

112. Another aspect of association of ideas that may contribute to objectification involves the perceived connection between our actions and their results. We see, over time, that we can exercise power through certain actions—administering various substances, tinkering with genomes, and so on. The impression may be vivid enough to reinforce feelings of self-importance and omnipotence, and to objectify whatever we are exercising power over.

drawing distinctions.[113] This, then, is precisely the point at which reflections on human cognitive capacities become appropriate.[114] Such study may confirm the risk to our normative system, but it may also suggest that the risks are bearable because we are in fact equipped to make appropriate distinctions and avoid damaging mischaracterizations.[115] The new forms of reassembly are not, after all, entirely one with commercial models of manufacture. Why, then, should we assume that human design always entails human thinghood? There are major differences that accompany the major similarities.

It is hard to overemphasize this point: not all processes of decomposition and reconstitution are the same in structure or effect. Each may create different risks of replacing noncontingent bonds with the weaker ones associated with objects. A major deficiency of some of the debates (popular and academic) about the uses of biological technologies is that they fail to pursue the differences as well as the similarities among various processes.[116] In vitro fertilization (IVF) looks like a manufacturing process, but the idea that it drives our minds

---

113. Daston & Gigerenzer, *The Problem of Irrationality*, 244 SCIENCE 1094 (1989) (book review of H. MARGOLIS, *supra* note 12):

> We err, be it by succumbing to cognitive illusions or through conservatism in the face of scientific novelty, because we apply the wrong patterns, misled by the ambiguity of cues, the tyranny of mental habit, or both. Thus, the same processes that are responsible for our cognitive successes—'our facility in handling patterns in faces, languages, places, and even entirely artificial things like chess and concert music' (p. 105)—are also to blame for our cognitive failures.

114. See the instructive remarks in Hansmann, *The Economics and Ethics of Markets for Human Organs*, 14 J. HEALTH POL. POL'Y & LAW 57, 76-77 (1989):

> Perhaps because our cognitive capacities are limited and because the social costs of inculcating norms are high, the psychological categories to which transactions are assigned tend to be broad and crude. It is not easy for us to consign one set of transactions to the nonmarket category and another seemingly closely related set of transactions to the market category. Moreover, substantial forces of inertia make it hard for us to rearrange our categories. . . .
>
> This inflexibility in our normative categories may help explain the reflexively negative moral response that commonly greets proposals for marketing human organs. . . .
>
> But initial resistance to shifting normative categories should not in itself be a sufficient reason for avoiding change. Transactions can be and have been recategorized when technological changes have made market mechanisms advantageous. . . . [A]fter several decades' experience our society has accepted a thriving market in human sperm brokered by propriety firms. It would be easy to characterize such a market as deeply offensive to fundamental values involving paternity, sexual relations, responsibility for and identity with one's biological offspring, and the need to make children feel that their relationship with their parents transcends that of mere commodities. And evidently, there was substantial ethical resistance to this market when it was first introduced. Yet over time we have chosen not to so characterize such transactions, but rather to draw the symbolic lines between our normative categories elsewere so that market transactions in human sperm are not perceived as undermining nonmarket norms in those cases where such norms continue to play a strong functional role.
>
> On the other hand, it is costly to make people upset their received normative categories, and there is no point in doing so unless substantial benefits will result.

See also infra note 153 (Lamb's slippery slope analysis).

115. It may be useful in estimating objectification risks to study human faculties for attributing similarities and differences. For examples of such studies, see Tversky & Gati, *Studies of Similarity*, in COGNITION AND CATEGORIZATION 79, 81-89 (E. Rosch & B. Lloyd eds. 1978) ("similarity versus difference"); *cf. Legal Implications of Human Error*, 59 S. CAL. L. REV. 225 (1986) (commentaries on systematic errors and biases in human inference). *See also* Hansmann, *supra* note 114, at 76 ("[T]here may be some circumstances in which it is unusally difficult to acculturate individuals to distinguish between different categories of transactions for normative purposes."); *cf.* H. MARGOLIS, *supra* note 12, at 298-99 (political and cognitive polarization). On "framing" as a stage of judgment, see *id.* at 5, 37.

116. One reason for this may be avoidance of the "transactions costs" of such pursuits. See the remarks of H. MARGOLIS, *supra* note 12. Such argumentation problems of course apply to a wide range of debates.

toward viewing the resulting children as manufactured objects, while worth considering, is not obviously correct.[117] There are other visions of IVF: focus on what follows it in a successful effort at reproduction—pregnancy and birth, which look like any other pregnancy and birth.[118] Elements of planning, assembling, and rearranging are not sufficient conditions for objectification. After all, seeing humans as mere manipulable entities is not something that normal adults normally do, and it represents something of a "cognitive burden" to do so.[119] Moreover, initial perceptions cannot be taken as final vetoes: differences and similarities may become apparent by persuasion and example. The "location" of things and processes on a normative map may change—partly as a result of offering competing perspectives.[120] The characteristics of the perceiving audience are crucial here: differences and similarities clear to some may not be apparent to others.[121] The fact that a perception of manufacturedness may move some minds to assimilate human reproduction to the production of widgets does not mean that the whole human audience will do so.[122] If it is really otherwise, human devolution from person to object is well on its way.

Nevertheless, the descent from person to object is a risk that demands close attention, despite the "cognitive inertia" in shifting our frames; it is indeed the central nightmare of the new biology. There are, for example, already reports that women have offered to conceive, gestate, and abort fetuses solely for use as

---

117. *See generally* Robertson, *Embryos, Families and Procreative Liberty: The Legal Structure of the New Reproduction*, 59 S. CAL. L. REV. 939, 1024-26 (1986) ("IVF does not appear to hold any greater risk of commodification than other currently accepted modes of conception and acquisition of children").

118. Such pregnancies are, however, often more heavily monitored, partly because of the incidence of multiple births. *See* L. ANDREWS, NEW CONCEPTIONS 256 (1984).

119. *Cf.* H. MARGOLIS, *supra* note 12, at 298 ("cognitive burden").

> [A] new habit of mind has to be acquired in a way that depends on fluent discrimination of cues marking contexts where the new sense is to be used, though until now some other (and in some contexts still essential) response was automatically invoked. . . . The most challenging cases of discovery are . . . those for which a shift in intuition occurs which requires displacing a deeply entrenched habit of mind shared across an entire community.

Id. at 170-71, 179-80. Margolis also notes that changing such an entrenched habit of mind may entail other such changes. *Id.* at 174-75.

120. To take one of many examples, few of us—judges or citizens—now classify artificial insemination as "adultery." *See generally* L. ANDREWS, *supra* note 118, at 188-91, for a brief review. See also the remarks of Hansmann, *supra* note 114. *Cf.* Hantzis, *Tort Law as Corrective Justice: A Pragmatic Justification for Jury Adjudication*, 88 MICH. L. REV. ___ (1990) (forthcoming article) (suggesting the multiplicity of juror perspectives as a justification for a central role for juries in torts cases). *See also infra* text accompanying note 143 (remarks of Nagel). It may, of course, be difficult to effect such changes because of the cognitive burden in altering how one sees things. *See generally* H. MARGOLIS, *supra* note 12, at 117 (habitual, deeply entrenched patterns of thought). Consider also the role of rhetoric in forming perceptions. *See generally* Radin, *supra* note 54, at 1877-1887 (discussion of "the moral and political role of rhetoric"). Radin argues that "[f]act- and value-commitments are present in the language we use to reason and describe, and they shape our reasoning and description, and the shape (for us) of reality itself." *Id.* at 1882. Radin concludes that "[m]arket rhetoric, if adopted by everyone, and in many contexts, would indeed transform the texture of the human world." *Id.* at 1884. *Cf.* B. ACKERMAN, SOCIAL JUSTICE IN THE LIBERAL STATE 358-59 (1980) (uses of dialogue within and in defense of liberal state).

121. See the accounts of various "color" experiments. *E.g.*, G. LAKOFF, *supra* note 16, at 330-34 (identification of which of three chips differs most in color from two others is affected by whether subject's language includes separate names for the colors—the Kay-Kempton experiment).

122. Who thinks of Louise Brown, the first "test-tube" baby (BIOETHICS, *supra* note 1, at 64) or any other such child as a thing?

sources of tissue for transplantation.[123] This is not an unambiguous instance of such "descent," but it is clearly suggestive of it.

C. *Obligations to Transform or Perfect: More on Choice and Objectification*

1. *The Normative Force of Potential*

Both persons and objects can be targets for change. Indeed, the idea of self-transformation toward some goal or ideal may well be one of the central ideas of human thought: there is a felt normative force to "potential" of this sort.[124] It may be held by groups and cultures as well as individuals, is affiliated with the idea of progress, and indeed bears connections to conduct as divergent as striving for moral perfection and taking drugs to open "the doors of perception."[125] An enlarged domain of choice over traits may thus fuel an intensified ideal of perfectionism.[126]

2. *Choice, Objectification, and Contingency: The "Paradox" of Perfectionism*

Such a reinforced ideal of perfectionism may create more objectification risks by connecting transformations of persons with what we do with products. The sorts of human transformations we are most accustomed to are the gradual changes associated with the stages of life and with directed ventures such as study or practice. Plastic surgery and sex-change operations go beyond this, of course. Nevertheless, rapid alteration of identity-defining traits is not readily associated with ordinary mortals; it is associated with products (including self-altering machines), animals, and the special persons or preternatural entities of myth and fiction. "Shape-shifting" and serious, discontinuous transformations are not contemplated by our usual normative categories.[127]

---

123. Thorne, *Trade in Human Tissue Needs Regulation*, Wall St. J., Aug. 19, 1987, at 6, col. 3. ("One woman, whose father suffers from renal disease, sought to be artificially inseminated with his sperm so that she might abort the fetus in the third trimester and transplant its kidneys into her father. . . . She was refused . . .").

124. This arises in other forms in a number of contexts—*e.g.*, rights or interests of fetuses in being born or avoiding injury (*see generally* Shaw, *Conditional Prospective Rights of the Fetus*, 5 J. LEGAL MED. 63, 107 (1984)) and rights to treatment or habilitation (*see, e.g.*, Youngberg v. Romeo, 457 U.S. 307 (1981)). There is much to be said concerning the nature of the moral force of the idea of potential. *Cf.* Buckle, *Arguing from Potential*, 2 BIOETHICS 227 (1988) (in a reproductive context).

125. The phrase is from the title of A. HUXLEY, THE DOORS OF PERCEPTION (1954). *See also* R. SIEGEL, INTOXICATION 317 (1989) ("we can no more turn back [in our development of "designer chemistry"] than climb down the evolutionary ladder. We must learn from these encounters and move on. To say No is to deny all that we are and all that we could be.").

126. For discussions of religious and secular notions of individual and social improvement, see, *e.g.*, R. NISBET, HISTORY OF THE IDEA OF PROGRESS (1980). On perfectionism in moral and political theory, see J. PASSMORE, THE PERFECTIBILITY OF MAN (1970); *see also Whether to Make Perfect Humans*, N.Y. Times, July 22, 1982, at 22, col. 1 (editorial). For a discussion of self-transformability as an aspect of human nature and of the historic origins of this idea, see R. Garet, Human Nature as Self-Transformability (unpublished manuscript on file with the author). I am not claiming that perfectionist ideals are embraced by all cultures at all times.

127. It may be otherwise in other cultures. *See, e.g.*, Furth, *Androgynous Males and Deficient Females: Biology and Gender Boundaries in Sixteenth- and Seventeenth-Century China*, 9 LATE IMPERIAL CHINA 1, 8-18 (1988) (males becoming females and vice versa); Dioszegi, *Shamanism*, 16 ENCYCLOPAEDIA BRITTANICA 638 (15th ed. 1976) (combat between shamans who are in animal form); *cf. Proteus*, 8 ENCYCLOPAEDIA BRITTANICA

Does technological transformation thus create objectification risks? Persons have many different attributes, any of which might be subject to transformation. We need to ask what changes in what characteristics are being sought by what mechanisms and for what goals. Transformations done with what seems to be "informed consent" might well avert a perception that a manufactured object was being manipulated. But doubts about consent might create an appearance of manipulation, though a therapeutic justification thought to promote long-run autonomy and personhood might prevent this.[128] With genetic breeding programs, both goal and mechanism seem associated with nonhuman forms of life. And even with permission, the use of drugs to enhance mental or physical performance suggests chemical engineering systems or animals bred for size or given growth hormone,[129] while training does not. (What about taking megavitamin doses?)

To the extent that seeing these processes inspires images of products, our minds may be "attracted" (in the Humean sense)[130] to that of product quality and product improvement—possibly without concern for the preferences or welfare of the product. There is thus a possibility of a transfer of attitudes toward objects to the persons we are transforming.[131] And this entails the risk that the contingent feelings we have to things will be felt to apply to persons. Perfectionist goals thus carry the risk that our attachments to whatever is being perfected will be contingent on the fulfillment of the enhancement efforts. The irony—paradox?—of perfectionism is that *certain* ways of pursuing it cause imperfection in the form of objectification.[132] The irony also arises if one thinks that striving for improvement is an aspect of personhood itself; certain forms of striving risk that very personhood.

The argument thus goes from technological transformation choices to objectification and contingency of duty and rests on features of human cognition. This is not an argument clearly establishing that certain technologies be avoided, dismantled, suppressed, or forgotten, but it merits attention.

---

251 (15th ed. 1976) (myth of Proteus, the shape-shifting, all-knowing old man of the sea). On animal transformations, see, *e.g.*, Cowen, *"Jumping Gender": Frogs Change from She to He*, 137 SCIENCE NEWS 134 (1990).

128. *See* BIOETHICS, *supra* note 1, at 175-78.

129. *See* Sun, *Market Sours on Milk Hormone*, 246 SCIENCE 876 (1989) (bovine growth hormone).

130. D. HUME, *supra* note 108, at 12-13.

> These are therefore the principles of union or cohesion among our simple ideas, and in the imagination supply the place of that inseparable connexion, by which they are united in our memory. Here is a kind of attraction, which in the mental world will be found to have as extraordinary effects as in the natural, and to shew itself in as many and as various forms.

Id. (capitals deleted).

131. *But cf.* J. FEINBERG, *supra* note 2, at 85 ("The weakness of the argument [against taking steps that threaten certain sentiments] consists in the difficulty of showing that the alleged coarsening effects really do transfer from the primary [say, aborted fetuses or hunted animals] to secondary objects [children or pets].").

132. This is a loose formulation that can be elaborated upon only briefly here. The paradox, if any, is weak, because only certain methods cause the "imperfection" of objectification. Further, use of these methods might not even constitute efforts at improvement or "perfection": one could argue that augmentation arising from drugs does not amount to personal improvement or an approach to perfection because it doesn't represent the true efforts of the subject; augmentation and perfection are two different games. True perfection is thus a moral concept, one might argue, that rests both on goals and mechanisms. *Cf.* J. COOPER, REASON AND HUMAN GOOD IN ARISTOTLE 124 (1975) ("[f]or Aristotle, *eudaimonia* is necessarily the result of a person's own efforts . . .") (emphasis in original).

Out of caution I note again that I am discussing this in a context addressing matters of perception, cognition, and existing normative categories; I am not claiming that we ought to think in any particular way, and I am not rejecting the view that we should revise and reconstruct our frameworks—that is always an open question.

3. *Moral Intrusiveness*

As I said, a technological choice or outcome is morally intrusive when it eludes or straddles categories that guide the application of moral criteria. The idea of persons as fully manipulable physical systems is an anomaly: it creates an intersection between sets—objects and persons—that we normally (if unreflectively) view as disjoint. Things that straddle categories bearing moral force are unsettling partly because the rules governing our dealings with them have lost at least some force.

One feature of this intrusiveness lies in the birth of new questions, both practical and theoretical, that inevitably arise in trying to formulate new normative guides. Are there moral privileges, rights or even obligations to transform oneself or one's children when it becomes possible to do so without undue burdens or risks? To whom do the obligations run—the children, the children-to-be, the community, or future generations? Are there duties to redefine and reach one's own "potential"?[133] In a world of legally permitted self-transformation, those who decline to upgrade themselves may insure that they will be among life's losers. Recall the current situation of those who do not wish to retool themselves by using steroids (assuming the drugs' efficacy, which is in some dispute).[134] A society full of augmented persons may establish a new norm, with non-crafted persons becoming the anomaly. One can only guess at the normative world that will evolve with such fundamental changes in dominant categories.

IV. FRAGMENT CONTROL—A REVIEW: NEW ENTITIES, NEW PERSPECTIVES, AND NEW CONFLICTS

When fragmentation occurs, each fragment, each link in the newly unlinked chain, may itself become a source of dispute. The fragments may represent wildly different kinds of entity. They may be living things in new locations, wrested, say, from a reproductive chain (a cryopreserved embryo); new kinds of entity (a person resulting from genetic transformation of an early embryo—if indeed that is a "new kind"); "separated" systems, processes, or traits that can be made to operate independently of their earlier connections (cardiovascular functioning wrested from neurological dependence; human features singled out for selective enhancement); or new relationships competing with others

133. *See supra* text accompanying notes 124-26 (the normative force of potential).

134. *See* Marshall, *The Drug of Champions*, 242 SCIENCE 183, 184 (1988) (official medical view is that steroids do not help in athletics).

(surrogate mother or gestational surrogate and child; genetic father and child carried in a surrogate; genetic father and surrogate mother).[135]

What do we wish to say of these fragments? Do we wish to say that some of the living entities have rights or at least interests that merit attention? That the relationships, evading existing moral taxonomies, deserve legal recognition? That certain traits plucked from their developmental environs and then adjusted represent desirable changes, and that the persons transfigured should be welcomed into a revised set of categories? At the very least, the recognition of new fragments or reassemblages may trigger new moral awareness and new normative insights.[136]

Such questions suggest the obvious: that fragmentation creates the immediate possibility of conflicts about our dealings with and control over (or by) the severed elements,[137] the nature of their integration into reassembled systems, and their location in new conceptual frameworks. Each fragment may represent a new perspective, and all the relevant perspectives may have to be attended to and accommodated in novel collisions.[138]

Wars of the fragments have already occurred, as we have seen. Think of the vegetative patient's simultaneous aspects as a living organism and as a former person who cannot be restored to personhood. Either aspect may be the primary one to the next-of-kin or a court, and many right-to-die cases reflect this: one aspect pulls us toward treatment to allow continuation as an organism, the other toward recognizing the end of personhood as the end of everything and forgoing all treatment.[139] Think again of the *Baby M* dispute: it just is not the same as a typical custody battle.[140] Neither is the issue of disposition of cryopreserved embryos, as in *Davis v. Davis*,[141] the dispute between divorcing spouses over the fate of their embryos. And think of athletes being penalized for

---

135. *Cf.* T. Corraghesan Boyle, *Caviar*, in GREASY LAKE AND OTHER STORIES 12 (Penguin ed. 1986) (short story involving relationship between surrogate mother and genetic father).

136. *Cf.* Ulane v. Eastern Airlines, Inc., 581 F.Supp. 821, 823 (N.D. Ill. 1983), *rev'd*, 742 F.2d 1081 (7th cir. 1984), where the District Court stated that:

> [P]rior to my participation in this case, I would have had no doubt that the question of sex was a very straightforward matter of whether you are male or female. That there could be any doubt about that question had simply never occurred to me. I had never been exposed to the arguments or to the problem. After listening to the evidence in this case, it is clear to me that there is no settled definition in the medical community as to what we mean by sex.

The District Court's judgment favoring the transsexual's discrimination claim was reversed by the Circuit Court. 742 F.2d 1081 (7th Cir. 1984).

137. *See* Capron, *supra* note 16, at 196 ("This new location [of germinal material] not only opens up the possibility for manipulation (and the risk of injury) but also raises novel issues about control since the material is no longer a part of the person in whom it orginated but is usually controlled by a biomedical scientist or practitioner."). *See also* Andrews, *Control and Compensation: Laws Governing Extracorporeal Generative Materials*, 14 J. MED. & PHIL. 541 (1989) ("Once the embryo was isolated in the petri dish, it could be used to create a child for the progenitors, it could be donated to another couple, it could be genetically manipulated, or it could be used for other research purposes.").

138. *See infra* text accompanying note 143 (remarks of Nagel).

139. *E.g.*, Barber v. Superior Court, 147 Cal. App. 3d 1006, 195 Cal. Rptr. 484 (1983) (the state opted to protect, via a murder prosecution, the organic life of permanently vegetative persons; the next-of-kin had authorized removal of all life-support mechanisms, including artificial nutrition and hydration. A writ of prohibition was issued restraining the Superior Court from allowing the prosecution to proceed.).

140. *In re* Baby M, 109 N.J. 396, 537 A.2d 1227 (1988).

141. 15 Fam. L. Rep. (B.N.A.) 2097 (Cir. Ct., Tenn. 1989).

violating athletic rules banning enhancement drugs: assuming new generations of low risk drugs, disgruntled athletes will someday take their tormentors to court, complaining not just about improper procedures and inaccurate tests, but about the very right to perfect oneself.[142]

The multiplicity of fragments and their conflicts thus suggests that the process of moral reasoning described by Thomas Nagel becomes simultaneously more urgent and more difficult:

> [Human beings] are complex creatures who can view the world from many perspectives . . . and each perspective presents a different set of claims. Conflict can exist within one of these sets, and it may be hard to resolve. But when conflict occurs between them, the problem is still more difficult. Conflicts between personal and impersonal claims are ubiquitous. They cannot, in my view, be resolved by subsuming either of the points of view under the other, or both under a third. Nor can we simply abandon any set of them. There is no reason why we should. The capacity to view the world simultaneously from the point of view of one's relations with others, . . . from the point of view of everyone at once, and finally from the detached viewpoint often described as the view *sub specie aeternitatis* is one of the marks of humanity. This complex capacity is an obstacle to simplification.[143]

Here too, there is an irony akin to the "paradox of perfectionism":[144] the growth in the number and kinds of entities and interests that demand our attention occurs as part of the same process that puts them at risk for being viewed as objects. The very process that creates an augmented person or a cryopreserved embryo suggests its status as an object.

We now have gone through the full fragmentation-demystification-reclassification-reassembly-objectification-new conflicts schema. Neither it nor any other one will fully describe or explain all the disturbing matters addressed by bioethics or medical ethics generally. I simply suggest that more familiar fragmentations (such as surgical extractions) do not dispute the authority of major classification systems dealing with the central life processes of reproduction, death, the gradual alteration of identity-defining traits, and the molding of species—the processes that determine whether we shall exist and if so, in what form.

---

142. One can of course see the steroid controversy as a familiar dispute about paternalism and symbolic externalities generating unwanted behavior (erosion of the value of life through the spectacle of great risks being taken for questionable gains). But future augmentation controversies may not fall into these modes of argument.

143. T. NAGEL, MORTAL QUESTIONS 134 (1979). *See also* C. LEVI-STRAUSS, THE SAVAGE MIND 136 (trans. 1966):

> What is significant is not so much the presence—or absence—of this or that level of classification as the existence of a classification with, as it were, an adjustable thread which gives the group adopting it the means of 'focusing' on all planes, from the most abstract to the most concrete, the most cultural to the most natural, without changing its intellectual instrument.

One may well ask of these new "perspectives" and "planes" how they can even exist without applicable categories of thought. The answer, I suppose, is that challenges even to entire systems of thought do not leave us entirely naked; the systems remain and inform our perceptions and evaluations, even as we see them impaired and try to revise them.

144. *See supra* text accompanying note 132.

V. A NOTE ON NORMATIVE ANALYSIS

A. *Challenges to Classification Systems*

Such challenges may seem hugely irrelevant to moral analysis. After all, we can and perhaps should revise and discard categories, as when they fail to mark appropriate differences in our moral relations. (Animals and humans, as many argue, should be treated similarly for a variety of purposes.)[145] No existing scheme of thought is decisive on moral issues, even when we concede that an enduring scheme of thought is a clue to morality (as pragmatists might say).[146] (I will not try to give a rigorous account of the idea of being a "moral clue.")[147]

But relevance is a function of task. Dealing with moral problems is a practical enterprise that requires a variety of insights. The process may be illuminated by noticing a problem's lack of fit within a scheme for resolving controversies: the noncongruity is a clue that something is amiss, a clue to be arrayed against the scheme itself as a moral clue. Seeing that we have a conceptual anomaly entails seeing similarities and differences and making and breaking associations. It may reveal new bearers of rights or interests. It may provoke rethinking the entire conceptual system: confronting problems that do not fit within existing frameworks is an exceptionally effective way of testing foundations.[148] While reinventing morality is perhaps not something to be done every day, a critical focus on the categories under siege is thus part of careful normative evaluation, and may suggest the more modest claim that certain revisions of a given normative scheme are called for, and that some challenges to current systems of categories should be seen as less (or more) challenging than they are now.

Revising the way we think, however, may involve a bootstrap problem because we see and judge with the very concepts and categories under attack.[149] Still, we ordinarily do not replace entire normative schemes all at once; they are the evolved products of thought and behavior over long periods. The revisions are likely to be partial—rearranging, deleting or adding categories, or adjusting perceptual frameworks so that some things or processes are *seen as* falling in or out of some schema. An overall scheme, even under challenge, may well be taken as the "default" guide.

---

145. *E.g.*, T. REGAN, THE CASE FOR ANIMAL RIGHTS (1983).

146. *See infra* note 147.

147. To say something is a "clue" is to say it has some bearing on the truth of some proposition. But how can something be a clue to a moral proposition without presupposing a moral theory or moral rules in the first place? Perhaps this is similar to the criticism one might hurl at process-oriented moral theories or at the pragmatists' complaints about the division of "is" from "ought." Still, moral analysis done without investigating extant normative classifications is done at one's peril. *See generally* Hantzis, *Peirce's Conception of Philosophy: Its Method and Its Program*, 23 TRANSACTIONS CHARLES S. PEIRCE SOC'Y 289, 298-302 (1987).

148. *See supra* text accompanying note 143 (Nagel's remarks); *see also* Wiggins, *Deliberation and Practical Reason*, in ESSAYS ON ARISTOTLE'S ETHICS 221, 233 (A. Rorty ed. 1980). ("[A] man's reflection on a new situation that confronts him may disrupt such order and fixity as had previously existed, and bring a change in his evolving conception of the point . . ., or the several or many points, of living or acting.") (emphasis in original).

149. This is a familiar point in linguistic philosophy and philosophical anthropology. See the references above to Lakoff, *supra* note 16, Whorf, *supra* note 74, and Davidson, *supra* note 72.

Full scale normative analysis, of course, cannot stop with the identification and interpretation of new perspectives. The perspectives must be judged, and their coexistence raises questions about how they are to be "combined" or "aggregated." I do not address this here.

B. *(Re)classification, Perception, and Learning*

To construct or revise sets and to attribute or deny memberships within them can affect preferences, attitudes, and behavior. To see that something does or does not fit critical categories (it is/is not baby selling), to construct new paradigms of the tolerable or intolerable, and to grace things with their own named classification may have learning effects, a point obviously relevant to the construction and maintenance of normative systems.[150]

C. *The Perceivers' Veto*

The perceivers' veto is akin to the "hecklers' veto."[151] If preference formation is morally relevant and preferences are likely to be formed from perceptions, and if a project induces perceptions that risk undesirable learning by the relevant audience, perhaps the perceptions should be avoided by barring the project, however distorted the perception may be.[152] (This is a form of "slippery slope" argument.)[153]

There is no simple answer to this: one thinks of showing that the perception is weak and unlikely to affect preferences, or of getting the audience to see things differently, to discern boundaries and connections better, and to develop new cognitions or feelings that thereafter become embedded in new patterns of perception. This, as I said, is one of the functions of debate—and debate that attends to different, concurrent, and often conflicting perspectives is badly needed in many fields to avoid further reinforcement of "habits of mind"[154] that are useful in some circumstances, but quite unfortunate in others.[155]

D. *Basic Values and Stability of Traits*

The point can be stated simply: stability of certain sorts is important, perhaps in some cases necessary, for the sensible use of ideas of value and virtue.

---

150. *Cf.* Shapiro, *Introduction: Judicial Selection and the Design of Clumsy Institutions*, 61 S. CAL. L. REV. 1555, 1559-64 (1988) (maintaining or increasing the incidence of right actions through learning and reinforcement of preferences and attitudes).

151. *See generally* G. GUNTHER, CONSTITUTIONAL LAW 1217-19 (11th ed. 1985).

152. Seidman makes a related point. *See supra* note 8, at 1829 ("[I]t is a mistake to treat the decision in *Baby M* as inconsequential, if for no other reason than because its symbolic meaning itself constitutes a reality that will affect future debate.").

153. *See generally* D. LAMB, DOWN THE SLIPPERY SLOPE: ARGUING IN APPLIED ETHICS 64 (1988) ("[i]n the case of euthanasia the slope argument rests on the belief that one form of killing is not significantly distinct from another, and that it may not be that easy to maintain a distinction in practice between the two forms of killing").

154. H. MARGOLIS, *supra* note 12, at 2.

155. *Cf. id.* at 117 ("[P]atterns that have proved powerful, and so have become deeply entrenched through use (that have become habitual), may have perverse deficiencies which are then difficult to escape."). Note also his remark that "political polarization stimulates cognitive polarization." *Id.* at 298-99.

The sudden transformation of a person's preferences, for example, puts a strain on the concept of autonomy (already burdened by the paired notions that preferences are not fixed over time, and that whatever they are at the moment is fixed for us). If traits—particularly "merit" attributes—generally are controllable, then equality (or certain versions of it) is tested: heavy investment in enhancement of physical and mental aptitudes may diminish concern for the less well-endowed, unless there are efforts toward broad distribution of the enhancement technologies. Parallel difficulties exist for the ideas of culpability and of identity itself.[156] Deeper knowledge of the foundations of behavior, even when unaccompanied by powers of precise alteration, may affect normative categories by vividly suggesting the possibility of manipulability (though it may not *compel* any conceptual reformulations).[157]

It may well be that some classification systems admit of considerable plasticity, boundary shifts, or even a relative absence of boundaries (while nevertheless remaining classification systems); one can imagine coherent worlds with some shape-shifting.[158] In such cases, classification "challenges" may not greatly disrupt descriptive and normative thinking.

VI. THE RESTORATION OF ORDER

A. *Assessing the Degree of Disorder*

Before calling for conceptual rearmament or restricting an application of some technology, it seems prudent first to evaluate the integrity of our thinking schemes against their challenges. This requires several stages of inquiry: (a) identifying the supposedly disintegrating classification scheme; (b) measuring the shift caused by the challenging case—perhaps by seeing how it compares to paradigm cases of rectitude or horror, in the view of a specified audience; (c) considering mechanisms for revising perceptions of ill fit; but also (d) considering the dangers of the revision process or its product. I refer, briefly, to three problem areas: surrogate motherhood; transplants of fetal tissue; and the enhancement of performance.

---

156. *See* M. Shapiro, Law, Culpability and the Neural Sciences: Effects of Enhanced Knowledge of the Causes of Human Action (Working Paper presented at meeting of Gruter Instutute, at Dartmouth College, Nov. 4-5, 1988, on file with author).

157. For a brief discussion, see BIOETHICS, *supra* note 1, at 15-20, 417-18; *see also supra* note 156.

158. *Cf.* Furth, *supra* note 121, at 3:

> Biological anomaly—the appearance in one individual of physical characteristics which are sexually disfunctional or thought appropriate to the opposite sex—seems to challenge accepted norms in a particularly disturbing way. However, in Chinese biological thinking, based as it was on yin-yang cosmological views, there was nothing fixed and immutable about male and female aspects of yin and yang. . . . This natural philosophy would seem to lend itself to a broad and tolerant view of variation in sexual behavior and gender roles.

But it did not always work out that way in practice. *See, e.g., id.* at 19 (no social room for intermediate status between sexes). (Consider whether knowledge of certain genetic anomalies—*e.g.*, xx males—might affect cultural classification systems.)

B. *Some Problems to Work With*

1. *Surrogacy*

a. *Classifications and Paradigms*

We already know of the physical fragmentation and the concomitant social fragmentation in surrogacy: it separates reproduction from marriage, creates genetic links across traditional family lines, and divides custody from gestation.[159] Surrogacy also embraces a social reassembly: the construction of a new nuclear family by "subtraction" from another one. The reassembly is usually facilitated by a market mechanism: whatever else it is, paid surrogacy is a purchase of services. A salient feature of the legal and public debate over surrogacy is over whether the transaction is also classifiable as a sale of children—an intersection of commerce with what is viewed as noncommercial, thus producing an anomalous child, a polluted transaction, and polluted families with mothers who are baby machines, fathers who are traders in human flesh, and children who are commodities.

There is of course abundant precedent for departing from our culturally preferred form of reproduction. We have tinkered with all the familiar elements of sexual reproduction: germ cell source; the relational status of the sources (married?); form of sexual union (the sexual act? IVF? artificial insemination by husband or donor (AIH or AID)?); the site of gestation (genetic mother? surrogate?); and custody.

Some of these variations from the ideal have been absorbed more or less successfully into our systems of thought. Divorce blurs the burdens of the nuclear family but we tolerate it because we assign high value to personal autonomy and we recognize the role of marriage in promoting happiness and agony.

Adoption assaults the idea of noncontingent bonds to our children: the mother parts from the child and the adopters may inspect the children to appraise their traits (compare trait selection in genetic engineering). But we accept it because we have to. What, after all, is the alternative, given our views that family life is better for children than institutional life, life in a series of foster homes, life on the street, or life as the unwanted child of an unwilling parent. We easily accept the absence of the sexual act with AIH partly because all the other elements of the paradigm are intact.[160] We are restive about AID because the marital boundaries are straddled and the genetic integrity of family reproduction is challenged: we have an *other* intruding into the group.[161] The classification challenge reminds us of adultery. Yet it is not adultery[162] and we

---

159. The separation may be not only of reproduction from marital sex, but of gestation from genetics, where the surrogacy is "gestational"—*i.e.*, the pregnant woman is not the ovum source.

160. AIH, however, seems to be questionable in Catholic theology. *See* CONGREGATION FOR THE DOCTRINE OF THE FAITH, INSTRUCTION ON RESPECT FOR HUMAN LIFE IN ITS ORIGIN AND ON THE DIGNITY OF PROCREATION: REPLIES TO CERTAIN QUESTIONS OF THE DAY 26-28 (1987) (homologous artificial fertilization).

161. *Cf.* Michael H. v. Gerald D., 109 S. Ct. 2333, 2342, *reh'g denied*, 110 S. Ct. 22 (1989) (referring to "the historic respect . . . traditionally accorded to the relaitonships that develop within the unitary family").

162. *See supra* note 120.

tolerate it without being overly concerned about destroying the conceptual system against which AID is judged.

But we do not tolerate selling children or abandoning them in the wild because, among other things, it is inconsistent with the ideal of the noncontingent bond to our children, and the loss of that ideal can lead to harsh fates for children and thus for all of us. We do not tolerate sale of children in utero (buying an adoption) because, among other things, pregnant women are thought to be vulnerable to undue influence, and bargaining about the disposition of the products of their wombs makes them seem to be baby factories and their children to be products.

Surrogacy is not any of these things, but of course this does not settle much. The "fragmentation schema" offered earlier suggests more questions: does the revision of traditional reproduction and its replacement with surrogacy (standard or gestational) threaten the noncontingent bonds of affection we owe to our offspring? Maybe. The surrogate is, after all, giving up the baby. It is an alarming picture—parents deliberately parting from their children for reasons that do not "track" within existing normative schemes.[163]

Yet not just any description of this parting will do. For example, it is not entirely appropriate to say that the child is being "abandoned."[164] The surrogate is not leaving it out on the prairie, perhaps to be rescued, perhaps to be devoured.[165] It is not being tossed aside because of its traits (at least where nothing goes wrong).[166] (It thus seems far from posing the risks of genetic engi-

---

163. *Cf.* Radin, *supra* note 54, at 1927 (discussing "whether parents who are financially and psychologically capable of raising a child in a manner we deem proper nevertheless may give up the child for adoption, for what we would consider less than compelling reasons"). The picture may be alarming, in particular, to other children of the surrogate mother.

164. What the surrogate mother does in parting with her child may technically satisfy the terse dictionary definition of the ordinary meaning of "abandon." *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 2 (1986) ("to cease to assert or exercise an interest, right or title to esp. with the intent of never again resuming or reasserting it"; "to forsake or desert esp. in spite of an allegiance, duty, or responsibility"); 1 OXFORD ENGLISH DICTIONARY 9 (2d ed. 1989) ("to give up to the control or discretion of another"). The term is nonetheless misleading. One aspect of the meaning of "abandon" (though not a necessary element) is "to give or discontinue any further interest in something because of discouragement, weariness, distaste, or the like." THE RANDOM HOUSE DICTIONARY OF THE ENGLISH LANGUAGE 2 (2d ed. 1987). This does not apply to surrogacy. Boswell illustrates the sharply contrasting scenarios when he says, *supra* note 54, at 24, that he uses "abandonment" to mean "the voluntary relinquishing of control over children by their natal parents or guardians, whether by leaving them somewhere, selling them, or legally consigning authority to some other person or institution." He rejects "indenturing" and "marrying a young daughter to another family in a distant location" as forms of abandonment but calls them "close parallels." *Id.* at 24 n.45. But these different scenarios suggest very different probabilities of survival and care and very different motivations. None involve the high probability of substitution of one set of nurturing *parents* for another, as in surrogacy. Surely here is an instance of a new or uncommon social relationship not being adequately addressed by an existing category—"abandonment." Note that in medical malpractice cases, making adequate arrangements for patient care by subsitute physicians defeats a charge of abandonment. J. KING, THE LAW OF MEDICAL MALPRACTICE 27-29 (2d ed. 1986). One might ask if a charge of criminal abandonment of a child would have any success in surrogacy (it should not). *See* CAL. PENAL CODE §§ 270-73.6 (West 1988) (abandonment and neglect of children).

165. *See generally* Boswell, *supra* note 54, at 128-31 (noting that abandonment "incrementally" increased the risk of death for a child, and referring to the belief in the ancient world that abandoned children would be found and raised).

166. Things do go wrong. *See supra* text accompanying notes 48-50, on categorical failure, and recall the Malahoff case, *supra* text accompanying note 68. Would rejection or abandonment on the basis of traits be worse than rejection or abandonment without regard to traits?

neering or performance enhancement.) The whole point of most surrogacy transactions is to provide a child for a nuclear family—far afield even from abandonments where it is expected that the child will be found and cared for. Surragacy is instinct with family creation: this is an aspect of surrogacy concurrent with the parting of mother and child. It is thus a seriously incomplete description to say the child is being "conceived in order to be given away."[167] It suggests the act of relinquishment is the ultimate goal, which it clearly is not; it is a mechanism for family formation. All descriptions are partial, but some are more partial than others.

b. *More Transformations*

What then, are the reasons for the fear that children will be transmorgrified into commodities and women into reproductive machines?[168]

i. *Sales and Unjustified Transfers*

Despite the differences between surrogacy in any form and the classic horrors of selling children or of female slavery, there are similarities. (I repeat that the simultaneous presence of differences and similarities—an omnipresent phenomenon of abstract thought—is overlooked or ignored by many debaters, whatever the subject being argued.) Money goes one way, the baby goes the other. No money, no baby.[169] Therefore, the baby is sold. Not a trivial argument, though incomplete. Indeed, how could one fail to think of it? Moreover, the child is being given up by its mother for reasons which appear nowhere in the standard classification system that allows for departures from the paradigm. The customary justifications for giving a child up for adoption involve inability to care properly for the child (*e.g.*, poverty, physical or mental deficits, or the supposed incompetence of youth) and, at least at one time, the stigma of unmarried motherhood. Surrogate mothers seem, by and large, financially, physically, and mentally competent,[170] though there are no doubt some who are unfit for one reason or another. There is thus some compromise of the noncontingent duty ideal, though it is not connected to the traits of the children.

Yet, as I suggested, the differences from the most detested forms of baby or adoption buying are substantial. There is no rejection of children for their traits or behavior; there is no browbeating of vulnerable pregnant women who

167. Krimmel, *Surrogate Mother Arrangments From the Perspective of the Child*, 9 LOGOS 97, 98 (1988).

168. "[One legislator] was concerned that a man's payment to a stranger to bear his child would cause him to view the resulting child as a commodity. If the baby didn't meet his specifications, he might try to return it, like 'damaged goods.'" L. ANDREWS, *supra* note 85, at 46. *See also* Areen, Baby M *Reconsidered*, 76 GEO. L.J. 1741, 1748 (1988).

169. There are of course surrogacy transactions that are noncommercial (except perhaps for payment of expenses). They seem not to be as strongly condemned as paid surrogacy (particularly payment in a "commercial"—*i.e.*, brokered—context). *E.g.*, Walters, *Genetics and Reproductive Technologies*, in MEDICAL ETHICS 201, 211 (R. Veatch ed. 1989) (referring to legislation barring commercial surrogacy); DEPARTMENT OF HEALTH & SOCIAL SECURITY, REPORT OF THE COMMITTEE OF INQUIRY INTO HUMAN FERTILISATION AND EMBRYOLOGY 46-47 (1984) (Warnock Report) (commercial exploitation the primary though not exclusive concern).

170. *Cf.* L. ANDREWS, *supra* note 120, at 207-08; Schuck, *supra* note 53, at 1793, 1799 ("[t]he available data contradict the view that surrogates are members of an 'underclass'").

may be disinclined to give up their children. Surrogacy is just not on all fours with exemplars of the evils of selling children. Whatever compromise there is of the noncontingent bond between parent and child seems far less than when live children are sold or when women are pushed by money into foregoing an anticipated life with a child they planned to have. An unqualified assertion that "this is baby selling" thus masks a variety of differences between surrogacy and classic forms of selling babies or adoptions. We need an end to asking this all-or-nothing binary question,[171] because putting it in terms of uncompromised categories (yes it is, no it is not) conveys more moral force than is called for.[172] (That is precisely why we rely on it, however; it makes thinking easier, if less accurate, and reflects the conceptual capital we have tied up in the existing classification system.)[173]

ii. *Wrenching*

Another reason for fear of surrogacy is that its concurrent aspects are not equally vivid (partly because our preexisting normative lenses are set in certain ways). We see a wrenching of mother from child; we do not see in the same way a father not receiving the child. We see the mother bereft, but not the father. Why? "Taking" is more vivid than not getting and, despite changes in common views about sex roles, mother-and-child bears a clout that father-and-child does not.

iii. *Selection of Surrogates*

Another reason for fearing eventual objectification—here, of women more than children—is the way in which surrogate mothers are selected. The suggested image (how accurate?) is that of lining up a bunch of women and inspecting them for looks, size, race, intelligence, personality and behavior generally, and using the best ones for a program of genetic control.

Of course, we must deal with this image if the issue concerns attitude shifts based on perceptions that in turn rest on our faculties for associating ideas. Is surrogacy indeed a form of genetic control? In a way—as is mate selection generally, though genetic concerns do not usually dominate. But they do not dominate in surrogacy either. For one thing, the genesis of surrogacy is the recognition of infertility and the desire for a genetically *connected* child, not a genetically *engineered* child. The former sort of "genetic control" is involved every time we reproduce in preference to adopting. The infertile couple says "Let's have a child," not "Let's engineer a baby if we can't have our own." Moreover, the investigation of the surrogate is heavily affected by concern over

171. *See* Radin, *supra* note 54, at 1917-21 (discussion of "incomplete commodification" and reference to a "continuum reflecting degrees of commodification").

172. *Cf.* Schuck, *supra* note 53, at 1795 ("Surrogacy is a special kind of baby selling, and examination of its special character shows that the 'baby selling' epithet should stimulate—not end—the moral and policy debate."). Until legislatures act to reconstruct the idea of baby selling—if they do at all—the question, of course, must continue to be raised wherever it is material.

173. *See supra* note 81 (reference to the "fixing of social life"); *supra* note 12.

whether she is likely to keep her promise, and this does not compromise the surrogate's status as a person—it reaffirms it. Wanting to have a genetically related child is just not the same as wanting to have a genetically manufactured child and does not seem generally to be perceived so. Surrogacy simply does not present itself as genetic control in the same way that, say, applying to the Nobel sperm bank or rewriting the genetic code of early embryos does. And we are, after all, talking about perceptions as mediators of learning.

iv. *Economic/Class Abuse*

A perception of economic abuse of lower income women is also a possible mechanism for objectification in surrogacy.[174] It is an image of wealth disparities and inappropriate, coerced self-binding by the surrogate. (The knowledge that most surrogate mothers are not truly impoverished has countered this perception to some extent.) There are some marginal risks of perceiving racial oppression, but for the most part, biological fathers and their wives seek surrogates of the same race (assuming they themselves are of the same race).

v. *Further Inquiry*

I suggest these points for additional investigation.[175] (a) Is there any evidence that the children of surrogacy transactions are in fact being viewed as objects in the sense suggested above—*e.g.*, that they are unloved or dealt with without regard to their developing attributes of personhood? (b) Is there any evidence that the ways in which we perceive surrogate transactions are transforming our views of children generally? (c) Is there any evidence that, as a result of the broad visibility of the institution of surrogacy, women are increasingly being viewed as commodities—reproductive engines? (d) Is there truly a dominant perception of economic *abuse*, rather than envy at another way in which the wealthier use ("exploit") the less wealthy (as workers, for example)? This is not a call for definitive data, but for some evidence—enough data to justify thinking that there may be much more to be found.

If there is no evidence of the sort required for answering these questions, one could still argue that, given the risks, the burden should be on defenders of surrogacy to show an absence of risk. That view, however, presupposes value analyses that take these risks to outweigh the obvious autonomy values at stake.

It is no good to respond to these questions by simply saying that no evidence is required: that surrogacy *is* objectification, *is* slavery, and *is* abuse—that there is nothing to investigate. This is argument by stipulation, and ignores all the problems of comparing similarities and differences between surrogacy and what might truly be seen as managing reproductive engines: directing human slaves[176] and operating artificial wombs. The slavery metaphor is

---

174. *See, e.g.*, Areen, *supra* note 168, at 1750 ("[a] second problem with surrogacy is the risk it presents that economically vulnerable women may as a class be exploited.").

175. I do not have a plan for any directed social experiments or retrospective investigations, and I leave aside questions about the ethical propriety or scientific soundness of given methods of gathering the information.

176. *See generally* M. ATWOOD, THE HANDMAID'S TALE (1986).

often presented in surrogacy as literally applicable, rather than as a metaphor—that is, as a claim of inclusion of one class of things within another, rather than of similarity of one class of things to another (and thus the membership of both in a larger class).[177] But metaphors suppress differences while they highlight similarities.[178]

vi. *A Thought Experiment*

I leave surrogacy with a thought experiment. As I suggested, the perceptual context is critical to issues of attitude shifts. What sort of audience sees the institution in question? Why does the audience see things in a given way? What are its perceptual frameworks?

Suppose there is a community of women only, where reproductive sources consist entirely of women and frozen sperm, and women with reproductive problems hire others to be inseminated and to carry a child for them to adopt. Would anyone in that community object? It is at least possible that some perceptions of objectification or commodification presuppose a male audience or male participation.[179] Men may be viewed as the prime instigators of surrogacy and as having a perceptual bias poised to see things as instances of female reproductive slavery or as the entry of new commodities (children as well as women) into the male dominated commercial arena.

Surrogacy might nonetheless be viewed as objectionable in an all female community, if it were thought to conflict with values of connectedness and nurturing.[180]

2. *Fetal Transplantation*

We have long had a problem fitting fetuses into our descriptive and normative classification schemes. Perhaps there is a rough, minimal consensus in this hazy area of our normative maps: fetuses are not nothings and, while we can do a lot to them, we can't do just anything. But what is it that we can't do?

There are some human disorders that may be ameliorated by transplanting fetal tissue, such as Parkinson's disease and juvenile diabetes.[181] Fetal tissue can

---

177. For analysis of whether the thirteenth amendment forecloses specific enforcement of surrogacy agreements, see Note, *Rumpelstiltskin Revisited: The Inalienable Rights of Surrogate Mothers*, 99 HARV. L. REV. 1936 (1986). The author also discusses the effect of the constitutional right of privacy on such enforcement.

178. METAPHORS, *supra* note 60, at 10 ("The very systematicity that allows us to comprehend one aspect of a concept in terms of another . . . will necessarily hide other aspects of the concept that are inconsistent with that metaphor."). *See also* M. BALL, LYING DOWN TOGETHER: LAW, METAPHOR, AND THEOLOGY 22 (1985):

> Inasmuch as social and physical reality is understood in metaphorical terms, metaphor is instrumental in shaping reality. . . . However, in helping to determine reality, metaphor also restricts or eliminates or conceals. For this reason an adequate conceptual system requires alternate, even conflicting, metaphors for a single subject, and our daily living requires shifts of metaphors for fullness of thought and action. (footnote omitted).

179. More precisely, a male audience and a female audience aware of the male audiencen and believing that it perceives in certain ways.

180. *Cf.* West, *Jurisprudence and Gender*, 55 U. CHI. L. REV. 1 (1988) (discussion of human separation and connection, and of nurturance and caring).

181. *See generally* Robertson, *Fetal Tissue Transplants*, 66 WASH. U.L.Q. 443, 444-45 (1988). The procedures are highly experimental and their current utility is not clear. *See, e.g.*, Merz, *Neurologists Join*

be acquired by: (a) harvesting tissue from fetuses already aborted; (b) getting permission to use fetal tissue where an abortion is already scheduled but not completed; (c) inducing women to abort in order to harvest the tissue; and (d) inducing women to become pregnant for the sole purpose of providing tissue for transplantation. (Tissue from spontaneously aborted fetuses cannot fill the supply.)[182] Compensation for the woman might be involved in any of these cases.

None of these prospects is wholly unproblematic, even the first two. Taking tissue from fetuses already doomed can be seen as a ratification of the evil of abortion, making one accomplice to it—though it can also be seen as making the best of an unfortunate situation by promoting health. Even if abortion is seen as morally permissible, there is a brutalization risk arising from the image of "cannibalization"—particularly of the mother devouring her young.[183] Still, our uncertain views of fetal status may keep the practice from being so perceived.

Inducing abortion to acquire tissue is more disturbing. True, one can argue that if abortion is permissible for a trivial reason, it should be permissible for a good one—promoting health. Yet the assumption here is that the fetus is otherwise scheduled for life. Where there is no decision to abort, the odds may be over 80% that a pregnancy will result in a live birth.[184] Whether one knows these figures or not, however, it is easy for the mind to connect a fetal transplant transaction with the use of live humans for the medical benefit of others. Objectification is a more serious risk, then, where there is open toleration of inducing abortions for transplantation—particularly if the inducement is for money, rather than family loyalty (as where a relative needs tissue).

The most problematic transaction is the inducement of pregnancy for transplantation purposes. Here the technological fragmentation of reproduction is the most conspicuous, as is the accompanying confrontation with normative categories. The transaction is "disconnected" from normal reproduction from the start: there is no intent to produce a child—to procreate.[185]

One might argue that no moral problem exists: there is no child-who-would-have-been but for the transplant plans. The unborn entity is deprived of no chance of life. No interests of any legitimate interest-bearer are harmed.

Neurosurgeons in Urging Restraint in Parkinson's Surgery, 261 J.A.M.A. 2929 (1989); Weiss, *Fetal-Cell Transplants Show Few Benefits*, 134 SCI. NEWS 324 (1988). *Compare* Blakeslee, *In Careful Test, Parkinson's Patient Shows Gains After Fetal-Cell Implant*, N.Y. Times, May 2, 1989, 2, at C3, col. 1. For examples of legislation restricting fetal transplantation, see MO. ANN. STAT. § 188.036 (Vernon Supp. 1990); 18 PENN. STAT. ANN. § 3216 (West 1989).

182. *See* Robertson, *Fetal Tissue Transplant Research Is Ethical*, 10 IRB 5 (Nov./Dec. 1988).

183. Nolan, Genug ist Genug: *A Fetus Is Not a Kidney*, 18 HASTINGS CENT. REP. 13, 16-17 (Dec. 1988) (emphasizing William May's reference to the image of the mother devouring her young).

184. *See* the data in Ventura, Taffel & Mosher, *Estimates of Pregnancies and Pregnancy Rates for the United States*, 1976-85, 78 AM. J. PUB. HEALTH 506, 509 (1988) (pregnancy outcomes for 1983).

185. Compare having a child in order to provide tissue for transplantation. Toufexis, *Creating a Child to Save Another*, TIME, March 5, 1990, at 56 (plan to have child and to transplant its bone marrow to older daughter with leukemia).

On the other hand, we are not growing potatoes. The *image* clearly is of human creation for use, whatever the moral status of the fetus.[186] We have no accepted conceptual pigeonhole for creating human life—or starting its creation—*solely* for the purpose of being used.[187] We engage in that sort of life-creation with animals and plants, not persons. It is easy to see how our normative classification system might have difficulty accommodating the practice. Perhaps this helps account for the dominance of the views against such life creation.[188]

3. *Performance Enhancement*

This impressively vague term might refer to processes that enable one to do better or be better (on some ordering standard). It may straddle both technological and nontechnological enhancement: studying, practicing, taking instruction, pursuing special diets, running laps, lifting weights, listening to advice, drinking coffee or taking pep pills before an exam, even taking drugs to get a good night's sleep the night before. It probably does not cover pain relief or, more generally, therapy to control physical or mental disorders that affect performance, and it may not cover avoidance of performance-impairing therapies. The term is probably better understood as entailing the absence of a "disorder model" of justification for the technology in question.[189] (Enhancing the abilities of a seriously retarded person would thus not be the best example of performance enhancement.)

"Performance enhancment" may, however, have a still narrower meaning—the use of exotic, nontraditional technologies for augmenting athletic performance (steroids, growth hormone) or intellectual abilities (memory enhancers, germ-line genetic engineering).[190]

---

186. One is reminded of Kant here, though the rule that persons must be regarded as ends and not merely as means does not clearly apply to fetuses or nonpersons generally. For a discussion of the ends rule, see Korsgaard, *Kant's Formula of Humanity*, 77 KANTSTUDIEN 183, 194, 197-200 (1986).

187. This at least seems to be the ideal. But we may not always view our children purely as ends in themselves. Think of having children to help till the soil, assist us in our old age, rescue our marriages, and so on.

188. Concerning fetal transplantation generally: there is a continuing federal moratorium on federally funded research using tissue from aborted fetuses. Hilts, *Citing Abortion, U.S. Extends Ban on Grants for Fetal Tissue Work*, N.Y. Times, Nov. 2, 1989, § I, at A1, col. 4. For additional commentary, compare Burtchaell, *University Policy on Experimental Use of Aborted Fetal Tissue*, 10 IRB 7 (July/Aug. 1988), with Danis, *Fetal Tissue Transplants: Restricting Recipient Designation*, 39 HASTINGS L.J. 1079, 1083-84 (1988); Freedman, *The Ethics of Using Human Fetal Tissue*, 10 IRB 1 (Nov./Dec. 1988). A federal panel had endorsed fetal transplants, forbidding compensation and requiring separation of the reproduction or abortion decisions from the transplant decisions. Culliton, *Panel Backs Fetal Tissue Research*, 242 SCIENCE 1625 (1988).

189. *See generally* Patlak, *Growth Hormones*, L.A. Times, Jan. 1, 1990, at B2, col. 1:

> The National Institute of Child Health and Human Development in Bethesda, Md., is currently conducting clinical tests to assess the effectiveness of growth hormone in these 'normal' [short] children, who, unlike midgets, do not have a classic growth hormone deficiency. The results will not be in for at least 10 years, but that has not stopped some doctors from using the therapy on such children.

I am not suggesting that it is clear when a disorder model is properly being used. For example, the view in Siegel, *supra* note 125, at 313, that "It is time to . . . recognize intoxicants as medicines, and intoxications as treatments for the human condition" seems so expansive it evacuates the idea of a disease model of much of its useful content.

190. I am considering these forms of performance enhancement (and other kinds of trait alteration) at greater length in another article. For some conceptual and moral analyses of the use of performance enhancers in sports and contests, see Brown, *Paternalism, Drugs, and the Nature of Sports*, 11 J. PHIL. SPORTS 14 (1985);

One could also argue for a broader meaning that comprehends use of street drugs in order to acquire new perceptual, emotive and cognitive experiences, whether for the sake of recreation, research, or self-improvement.[191]

In all these cases, one may ask whether "performance enhancement" includes "improvements" that alter identity as well as those that do not (though one might argue that the ideas of performance enhancement and identity change are mutually exclusive—in the latter case, there is a new subject rather than an improved old one).

We can view these maneuvers within different conceptual systems, thus highlighting several explanations for the suspicion cast on performance enhancement. First, there is the "descriptive" classification system involving a distinction between the natural and the artificial and how we deal with the two domains. We associate technological manipulation of basic traits with artifacts[192] and, possibly, with plants and animals subjected to breeding or germline engineering programs. Ordinary medicine is not usually seen as manipulating basic traits, whatever else it does.[193] The "discontinuities"[194] between ourselves and the kingdoms of things, animals, and plants thus wither away some more when we technologically enhance performance.

Second, there may be problems with normative classification systems informed by the natural-artifactual distinction. If "natural" categories carry moral force, then shredding the boundaries between natural and artificial involves us in immorality.

Third, we have particular normative schemes for judging merit, and these too are severely tested. If there is secret use of enhancers—in footraces, achievement tests, etc.—then the contest seems unfair (though one could devise games that comprehend forms of cheating). More, we may ask just *who* it is that is competing and winning or losing: significant augmentation suggests identity problems as well as problems of desert.[195] To whom is merit ascribed? Finally, if there is open use by all, then another problem is highlighted: evaluating contests that test the putative merit of strange beings that straddle personhood

---

Fraleigh, *Performance-Enhancing Drugs in Sport: The Ethical Issue*, 11 J. PHIL. SPORTS 23 (1985); Simon, *Good Competition and Drug Enhanced Performance*, 11 J. PHIL. SPORTS 11 (1985). *See generally* Buckley, Yesalis, Friedl, Anderson, Streit, & Wright, *Estimated Prevalence of Anabolic Steroid Use Among Male High School Seniors*, 260 J.A.M.A. 3441 (1988); Cowart, *Issues of Drugs and Sports Gain Attention as Olympic Games Open in South Korea*, 260 J.A.M.A. 1513 (1988); Grumbach, *Growth Hormone Therapy and the Short End of the Stick*, 319 NEW ENG. J. MED. 238 (1988); Lantos, Seigler & Cuttler, *Ethical Issues in Growth Hormone Therapy*, 261 J.A.M.A. 1020 (1989). Work continues on intellect-enhancing agents. *See, e.g.*, Deyo, Straube & Disterhoft, *Nimodipine Facilitates Associative Learning in Aging Rabbits*, 243 SCIENCE 809 (1989).

191. *See generally* Siegel, *supra* note 125.

192. *Cf.* Fraleigh, *supra* note 190, at 25 (arguing that "[d]rug use is *morally* wrong because it reduces athletic competition to contests between mechanized bodies rather than total thinking, feeling, willing, and acting persons.") (emphasis in original).

193. Dramatic improvements in one's mental functioning (as with antipsychotic drugs), physical capacities, or appearance (as with plastic surgery) make this less certain, but the presence of a disease model of justification in many of these cases may blunt some questions about identity. Alterations in appearance may sometimes present themselves as changing one's identity.

194. *See supra* note 10 (reference to Mazlish).

195. *Cf.* J. GLOVER, THE PHILOSOPHY AND PSYCHOLOGY OF PERSONAL IDENTITY 109-204 (1988) (self-creation and identity).

and thingness (or animalness or plantness).[196] How should we judge such contests and their contestants?[197]

Objectification is a risk of such technological augmentation. The risk arises from the association of persons with technological planning or breeding, and from the vivid image of the success—monetary or otherwise—it may bring.[198] And as I said earlier, one of the chief features of objectification is the substitution of one set of attachments (generally involving contingent, weak obligations) for another (noncontingent, strong obligations). Bill McKibben asks: "What will it mean to come across a rabbit in the woods once genetically engineered 'rabbits' are widespread? Why would we have any more reverence for such a rabbit than we would for a Coke bottle?"[199]

One response to the objectification argument is that there are broad classification systems—though at a high level of generality—within which performance enhancement seems less problematic: the drive to exceed ourselves follows a perfectionist notion of self-transformation that has a variety of historical roots.[200]

Another response rests once again on multiple characterizations: consider Joseph Margolis's well-put challenge: "[W]e have not yet explained what the sense is in which the technologized self or its world *are* constructed and yet are not *merely* constructed."[201] And perhaps the conceptual challenges entailed by enhanced persons are not as great as one might think, if the preexisting conceptual system views persons as "naturally artificial."[202]

---

196. Some fear that if we countenance such contests, we will have inappropriate cross-entity comparisons, such as man vs. computer. Such contests have in fact been going on for some time, causing some anguish. *See* Peterson, *Computer Chess: A Masterful Lesson*, 136 SCI. NEWS 276 (1989) (computer that had defeated several grandmasters was defeated by Kasparov, the world champion). The view that the contests remain (at least in part) contests between humans—programmers against others—is not often emphasized.

197. For an account of some problems in managing a world with mental enhancement commodities, see Shapiro, *Who Merits Merit? Problems in Distributive Justice and Utility Posed by the New Biology*, 48 S. CAL. L. REV. 318 (1974).

Several states have enacted legislation to discourage the use of steroids and other drugs to enhance athletic performance. *See, e.g.*, CAL. HEALTH & SAFETY CODE § 11153, 11153.1 (West Supp. 1990) (to physicians and pharmacists: prescriptions shall be issued only for "a legitimate medical purpose"; to wholesalers and manufacturers: use for "increasing athletic ability or performance" is a factor to be considered in determining violations under a "knowing" or "conscious disregard" standard).

198. There is another issue—the problem of inappropriate risk-taking—that I merely mention. The idea of chancing great harm in order to "win" might be seen as devaluing human life, reducing competitors to controlled gladiators or cock fighters. In some contexts this might create an objectification risk, but it is worth noting that it seems distinctively human to behave in such a way, however foolish it may be.

199. B. MCKIBBEN, THE END OF NATURE 211 (1989).

200. *See supra* notes 124-32 (references to perfectionism and potential). Perfectionism, as applied to other life forms, seems to have a more utilitarian or perhaps esthetic cast. *See, e.g.*, B. MCKIBBEN, *supra* note 199, at 164 (genetically improved trees).

201. Margolis, *The Technological Self*, in TECHNOLOGICAL TRANSFORMATION: CONTEXTUAL AND CONCEPTUAL IMPLICATIONS 13 (E. Byrne & J. Pitt eds. 1989) (emphasis in original). It should be added that payments to genetic or trait engineers are not sufficient to transform the child (to-be) into an object or commodity.

202. Grene, *The Paradoxes of Historicity*, in HERMENEUTICS AND MODERN PHILOSOPHY 168, 169 (B. Wachterhauser ed. 1986) (referring to the "natural artificiality of man" and attributing this idea to H. Plessner).

VII. Conclusion and Summary

Bioethical problems form a special set that share at least some of a cluster of elements involving the fragmentation, reassembly, and reclassification of life processes and associated social practices. This reshaping of the world, ourselves, and our place within it affects and is affected by the conceptual tools we use to describe, explain, and evaluate conduct and conditions. More precisely:

1. Various technologies fracture natural entities and processes and, as a result, connected social structures as well. They do so by dividing them into their elements (as with reproduction), by forming new elements, or by permitting us to focus on particular human attributes, remove them from their natural pattern of development, and then vary them (as with size or intellect). The various kinds of fragmentation involve a "separation" of the elements of biological and social processes.

2. Fracturing and rearranging the elements of something may remove it from existing categories or splatter it across several. The reconstruction of life processes may thus alter the conceptual/classificatory systems through which we see and judge the world and our actions: the very categories or tools of thought we use for normative analysis are enfeebled. Anomalies and monsters replace the constant conjunction of familiar traits. We see flying squirrels everywhere.

3. The fission of what is commonly conjoined is paired with the possibility of new fusions—reassemblies of the constituents of objects and processes. We can reconstruct the "family," restate the criteria for death, increase our size and strength and thus revise ourselves, combine genetic material from different species, and so on. And this reconstruction is at our direction; it is not simply nature's frolics.

4. Each fragment or rearrangement may represent or reflect a new value perspective that demands respectful attention and creates new moral insights, but may create or compound value dilemmas; there are new entities, old entities in new forms, and new relationships and transactions.

5. Several of the new value perspectives embrace the issue of who is to control the new fragments, assemblages, and relationships (or, in reverse, what kinds of control or influence they can exercise).

6. Fragmentation and reassembly are ordinarily seen as associated with nonhuman life processes and with the manufacture of products or the rendition of services for a price. The very possibility of fragmentation and reassembly of life processes thus creates—in theory—the risk that we will slip toward viewing and treating persons as artifacts or products that are to be priced and distributed. This objectification risk is suggested by a basic element of thought and learning—the association of ideas. This "learning" perspective also applies to any responsive regulatory scheme we use: regulation is language.

7. Because the idea of product suggests the idea of product quality and product improvement, we may come to feel obliged to transform and perfect humanity—like any other product—at the expense of autonomy, fairness, equality, and other values. Further, the idea of product perfectibility introduces the risk that our attachment, respect, or affection for other persons (including

our offspring) will become contingent on the success of our reassembly and on the success of the persons so fashioned (whatever the endeavors at stake). This applies even more strongly to entities so revised that they fit poorly into our systems of classification. The noncontingent bonds between us and those we are to care for are thus placed at risk. Thus, whenever it is possible to partition life processes and the social relations built around them, we need to address the possibility that we will end up viewing persons as products or mechanisms for use. This is particularly so if many technologies push in this direction at the same time.

8. This risk of value erosion may arise from the very existence of choice itself.

9. If there is a significant risk that our combined cognitive aptitudes and deficiencies will produce the wrong kinds of learning, should we restrict the development and application of the risky technologies? It seems a vast oversimplification to suggest that we will come to regard persons as things whenever we fracture human life processes and relationships and alter or rejoin them in new ways. Commercializing reproduction in a surrogacy transaction, for example, is not an all-or-nothing proposition. Our separations and recombinations might instead suggest that each fragmented element—say, the source of sex cells, the woman who gestates, the fetus in the foreign womb, or the genetic father/surrogate mother relationship—be seen as the source of a set of interests and perspectives deserving respect. Separation and recombination can provoke us to revise upward our valuations of human interests—as well as downward. There is nothing inevitable about the descent from person to object under the impact of technologies that transform fixed traits into variable ones and reorder integrated processes.

If there is anything to what has been said here, the rearrangement of the world and ourselves within it will drive the rearrangement of the thinking tools that define our moral identities. Technologies do not simply enable us to do work more effectively; they change the way we think.